

Unica

Socket-outlet flush-mounted screw-less connections

Product Environmental Profile



Product Environmental Profile - PEP

Product Overview

The main function of the **Unica** range is the building of electrical installations surface-mounted or flush-mounted using fixing frames and cover frames with functions inserts.

The range of functions inserts consists of more than 150 electrical and electronic functions in light and power control, socket-outlets, data sockets, signalling, protection, comfort and energy saving.

The representative products used for the analysis is a 2-modules socket-outlet 10/16 A – 2P+E shuttered, polar white colour, with screw connections (ref. MGU3.037.18) and with screw-less connections (ref. MGU3.057.18), flush-mounted using the standard accessories for the range (plastic fixing frame (ref. MGU7.002.P) and 1-gang cover frame polar white colour (ref. MGU6.002.18) in flush-mounted installation.

The environmental impacts of the products used as a reference are representative of the impacts of other products in the range which are made using the same technology.

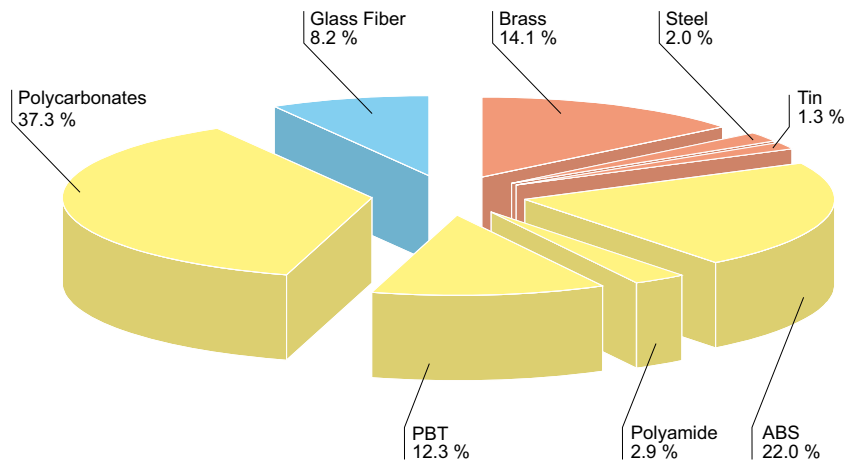
The environmental analysis was performed in conformity with ISO14040

"Environmental management: Life cycle assessment – Principle and framework".

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

Constituent materials

For the combination with screw-less-connections socket-outlet, the mass of the flush-mounted application analyzed is 65.31 g, packaging excluded. The constituent materials are distributed as follows:



Material family	Material for PEP declaration	Total (g)	%
Metal	Brass	9.20	14.09 %
	Steel	1.30	1.99 %
	Tin	0.85	1.30 %
Plastics	ABS	14.35	21.97 %
	Polyamide	1.86	2.86 %
	PBT	8.05	12.33 %
	Polycarbonates	24.34	37.27 %
Various	Glass fiber	5.36	8.21 %
Total		65.31	100 %

All necessary steps have been taken with our services, suppliers and subcontractors to ensure that the materials used in the composition of the **Unica** range do not contain any substances prohibited by the legislation that was in effect* when the product or range was put on the market.

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, polybromodiphenylthethers PBDE) as mentioned in the Directive.

* According to the list available on request.

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Manufacturing

The **Unica** product range 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. For both combinations with screw- or with screw-less-connections socket-outlet, the application packaging weights 18.79g. It consists of 14.89g (79%) of cardboard, 2.6g (14%) of polyethylene, 1.3g (5%) of polypropylene and 0.3g of paper 50% recycled (2%). The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

Utilisation

The products of the **Unica** range do not generate environmental pollution requiring special precautionary measures (noise, emissions, etc.). The products involved in the application analysed are passive products which do not dissipate any significant heat in the installation.

End of life

At end of life, the products in the **Unica** range can either be dismantled or crushed for better reuse of the different constituent materials. The recycling potential is more than 90%. This percentage includes metals and marked plastics.

Environmental impacts



The EIME (Environmental Impact and Management Explorer) software, 1.6 version, and its database, 5.4 version were used for the life cycle assessment (LCA). The assumed service life of the product is 20 years and the European electrical power model was used. The scope of the analysis was limited to a flush-mounted socket-outlet with a fixing frame and a cover frame. The environmental impacts were analysed for the Manufacturing (M) phase, including the processing of raw materials, and for the Distribution (D) and Utilisation (U) phases.

Presentation of the environmental impacts of the products for the combination with screw-less connections socket-outlet:

Environmental indicators	Unit	For MGU3.037.18 + MGU7.002.P + MGU6.002.18			
		S = M + D + U	M	D	U
Raw material depletion (RMD)	Y-1	4.57 E ⁻¹⁶	4.07 E ⁻¹⁶	4.98 E ⁻¹⁷	0
Energy depletion (ED)	MJ	18.6	17.6	1.03	0
Water depletion (WD)	dm ³	2.01	1.54	0.461	0
Global warming potential (GWP)	g≈CO ₂	490	457	33.0	0
Ozone depletion (OD)	g≈CFC ⁻¹¹	5.39 E ⁻⁰⁵	4.42 E ⁻⁰⁵	9.75 E ⁻⁰⁶	0
Photochemical ozone creation (POC)	g≈C ₂ H ₄	0.336	0.309	0.0261	0
Air acidification (AA)	g≈H ⁺	0.228	0.222	5.26 E ⁻³	0
Hazardous waste production (HWP)	kg	7.39 E ⁻³	7.28 E ⁻³	1.06 E ⁻⁴	0

The life cycle analysis shows that the manufacturing phase (M) is the phase which has the most impact on the environmental indicators. Schneider Electric places strong importance in the design process on the choice of materials to be used and on the power consumption of the products so as to optimize impacts on the environment.

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System approach

As the products of the range are designed in accordance with the ROHS Directive, they can be incorporated without any restriction within an assembly or an installation submitted to this Directive. It is important to remember that the product environmental assessment must take into consideration the application or installation in which the product is included. The environmental impact values also depend on the conditions under which the product is used in the installation. These values (given in the "Presentation on the environmental impacts of the products" table) are only valid within the context specified and cannot be used directly to compile 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 dm³.

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 CO₂.

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 (C₂H₄).

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.



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

Schneider Electric Industries SAS
85, rue Joseph Monier
CS 30323
F - 92505 Rueil-Malmaison Cedex (France)
Tel.: +33 (0)1 41 29 70 00

<http://www.schneider-electric.com>

This document is based on ISO 14020 which relates to the general principles of environmental declarations and the ISO TR 14025 technical report relating to type III environmental declarations. It was produced according to the instructions in the PEP drafting guide, version 4.

Published by: Schneider Electric
Produced by: Sedoc