Altira
Variapush dimmer flush-mounted
Product Environmental Profile

Schneider Electric

Product Environmental Profile - PEP

Product overview

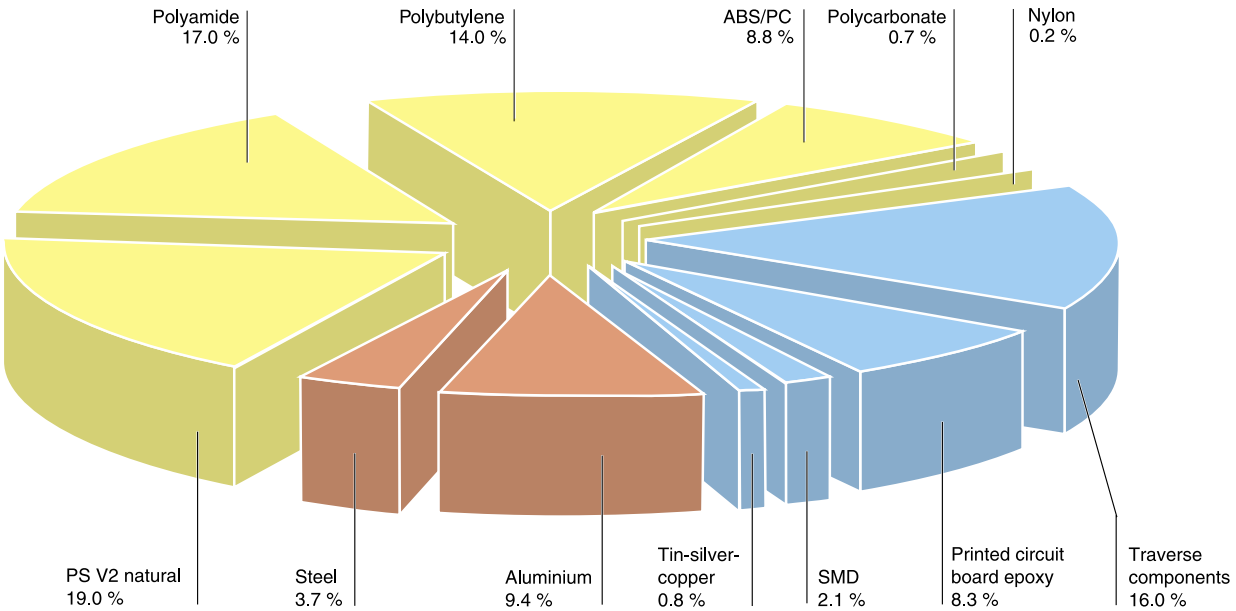
The main function of the Altira range is the building of electrical installations with either trunking or flush-mounted, using 45 x 45 format devices.
The range consists of:

- *switches,*
- *dimmers,*
- *socket-outlets,*
- *VDI sockets.*

The representative product used for the analysis is the Variapush dimmer, 20-350 W (ref. ALB45190) flush-mounted using the standard accessories for the range (flush-mounted box - ref. ALB71340, fixing frame - ref. ALB45601 and cover plate - ref. ALB45650).
The environmental impacts of the product used as a reference are representative of the impacts of the other products in the range which are made using 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 product life cycle into account.

Constituent materials

The weight of the flush-mounted Variapush dimmer analyzed is 81.1 g.
The constituent materials are distributed as follows:



All necessary steps have been taken with our services, suppliers and subcontractors to ensure that the materials used in the composition
of the products of the Altira range do not contain any substances prohibited by the legislation that was in effect(1) when the product or range was put on the market.
***(1)** According to the list available on request.*

Manufacturing

The Altira range is manufactured on 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 Variapush dimmer packaging weighs 63.1 g.
It consists of 57.7 g of cardboard and 5.4 g of paper.
The product distribution flows have been optimized by setting up local distribution centers near the market areas.

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Utilization

The products in the Altira range do not generate any environmental pollution requiring special precautionary measures (noise, emissions...)
The power consumed by the electronics of the Variapush dimmer-ALB45190 is 0.85 W in active mode and 0.6 W in standby mode.
The power consumed represents less than 0.4 % of the total power through the product. The dissipated power depends on the product implementation and operating conditions.

End of life

At the end of their lives, the products in the Altira range can be either dismantled or crushed for better reuse of the different constituent materials.
The recycling potential is more than 77 %. This percentage includes metals and marked plastics. It also includes an electronic board (4.5 x 4.5 cm) which require specialized end-of-life treatment.

Environmental impacts

The IEME (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 15 years and the European electrical power model was used. The utilization scenario is operation of the Variapush dimer during a daily time range of 30 % of the time with an average load of 200 W.
The scope of the analysis was limited to a flush-mounted Variapush dimmer, a fixing frame and a cover frame.
The environmental impacts were analyzed for the Manufacturing (M) phase, including the processing of raw materials, and for the Distribution (D) and Utilization (U) phases.

Presentation of the environmental impacts of the product

Environmental indicators	Unit	For ALB45190 + ALB71340 + ALB45601 + ALB45650			
		S = M + D + U	M	D	U
Depletion of natural resources	Y-1	$7.44\ 10^{-15}$	$7.01\ 10^{-15}$	$3.54\ 10^{-18}$	$4.20\ 10^{-16}$
Energy depletion	MJ	$1.26\ 10^{3}$	$2.22\ 10^{2}$	4.37	$1.03\ 10^{3}$
Water depletion	dm^3	$2.95\ 10^{2}$	82.20	3.34	$2.09\ 10^{2}$
Global warming potential	g≈CO_2	$2.06\ 10^{4}$	$1.38\ 10^{4}$	$1.52\ 10^{2}$	$6.6\ 10^{3}$
Ozone depletion potential	g≈CFC-11	$2.51\ 10^{-3}$	$1.91\ 10^{-3}$	$8.29\ 10^{-5}$	$5.17\ 10^{-4}$
Photochemical ozone creation	g≈C_2H_4	9.63	6.17	$1.56\ 10^{-1}$	3.30
Air acidification	g≈H^+	3.73	2.40	$4.18\ 10^{-2}$	1.29
Hazardous waste production	kg	$2.99\ 10^{-1}$	$2.14\ 10^{-1}$	$1.23\ 10^{-4}$	$8.49\ 10^{-2}$

The life cycle analysis has shown that the manufacturing phase (M) is the phase that has the most impact on all the environmental indicators.
Schneider Electric places strong importance in the design process on the
choice of materials it uses and on the power consumption of the product
so as to optimize impacts on the environment.

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System approach

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 of the environmental impacts of the product" table) are only valid within the context specified and cannot be used directly to compile the environmental assessment of the installation. The Variapush dimmer can reduce the power consumed by lighting installations and extend the service life of light bulbs as well. Dimming the lights by 10 % reduces the power consumed by 25 % and quadruples the service life of the light bulbs in 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 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 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 (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.

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

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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.
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