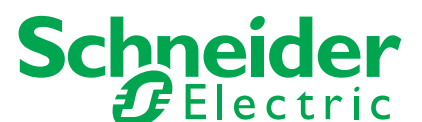
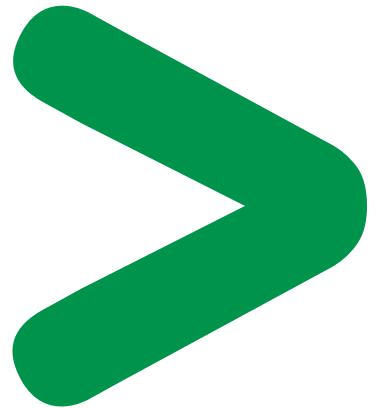
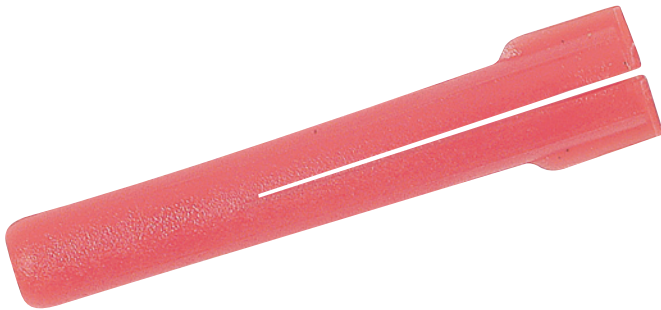


Product Environmental Profile

TP, wall plugs



Product Environmental Profile - PEP

Product overview

The main function of the TP wall plug product range is to hold screw.

This range consists of wall plugs which have several sizes. They spread out from D5.5 L16.5 mm to D20 L100 mm (D: diameter, L: length).

The representative product used for the analysis is a wall plug size D5.5 L35 mm (ref. no. T1003011).

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.

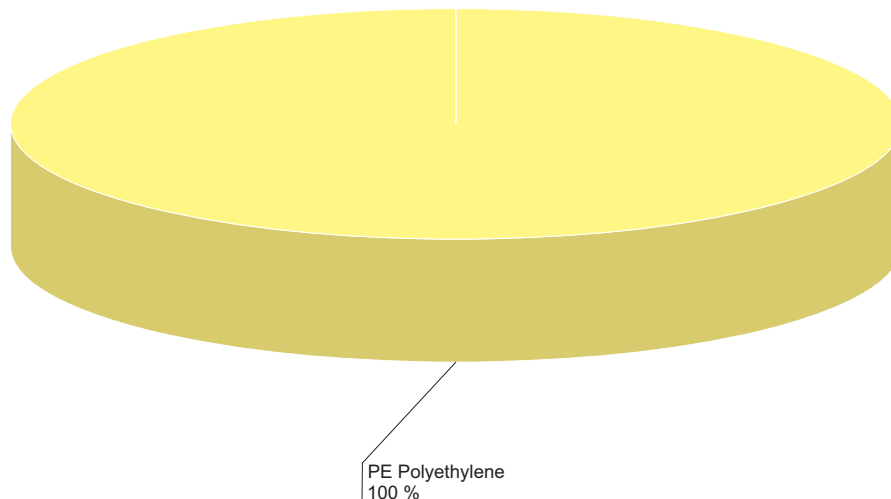
The environmental analysis was performed in conformity with ISO 14040 "Environmental management: Life cycle assessment – Principle and framework".

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

Constituent materials

The mass of the range products spreads out between 0.3 g and 19 g packaging excluded. It is 0.57 g for the TP wall plug size D5.5 L35 mm (ref. no. T1003011).

The constituent materials are distributed as follows:



Substance assesment

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 TP wall plug 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 wall plug size D5.5 L35 mm packaging weight is 0.19 g. It consists of 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 products of the TP wall plug 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 TP wall plug range can either be dismantled or grinded to facilitate the recovery of the various constituent materials.

The proportion of recyclable material is higher than 91 %.

This percentage includes the following materials: PE Polyethylene.

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 wall plug size D5.5 L35 mm.

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 TP wall plug, size D5.5 L35 mm, T1003011			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	1.4285E ⁻¹⁹	1.3116E ⁻¹⁹	1.1691E ⁻²⁰	0.00E ⁺⁰⁰
Energy depletion	ED	MJ	1.001E ⁻¹	9.1509E ⁻²	8.5885E ⁻³	0.00E ⁺⁰⁰
Water depletion	WD	dm ³	1.6537E ⁻²	1.4931E ⁻²	1.606E ⁻³	0.00E ⁺⁰⁰
Global warming	GW	g ~CO ₂	4.162	3.754	4.0767E ⁻¹	0.00E ⁺⁰⁰
Ozone depletion	OD	g ~CFC-11	7.9254E ⁻⁷	4.8616E ⁻⁷	3.0638E ⁻⁷	0.00E ⁺⁰⁰
Photochemical ozone creation	POC	g ~C ₂ H ₄	2.5949E ⁻³	2.2232E ⁻³	3.7179E ⁻⁴	0.00E ⁺⁰⁰
Air acidification	AA	g ~H ⁺	7.5504E ⁻⁴	6.5281E ⁻⁴	1.0222E ⁻⁴	0.00E ⁺⁰⁰
Hazardous waste production	HWP	kg	2.7238E ⁻⁵	2.7138E ⁻⁵	1.0034E ⁻⁷	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. The environmental impacts are proportional to the weight of other products in the range.

Environmental impact coefficients compared with D5.5 L35

Size	D5.5 L16.5	D20 L100
Coefficient	0,53	33,33

Product Environmental Profile - PEP

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 this material.

Energy Depletion (ED)

This indicator gives the quantity of energy consumed, whether if 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 m³.

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. This effect is quantified in gram equivalent 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. This 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 (C₂H₄).

Air Acidification (AA)

The acid substances present in the atmosphere are carried by the rain. A high level of acidity in rain can cause damage to forests. The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mole equivalent of H⁺.

Hazardous Waste Production (HWP)

This indicator gives the quantity of waste, produced along the life cycle of the product (manufacturing, distribution, use, including production of energy), that requires special treatments. It is expressed in kg.

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