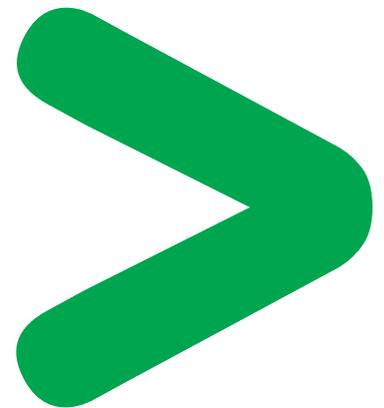


Product Environmental Profile

Delta 8
Core unit



Product Environmental Profile - PEP

Product Overview

The main function of the Delta 8 range is to carry out home networking for Data (internet), telephone and Television.

Delta 8 range allow to share digital home made contents or external content with 8 communication outlets at home. Extensions are possible to more outlets by stacking Delta 8 products.

This range consists of one core unit called Delta 8 and several accessories. The accessories are mainly:

- One Data, TV, Telephone splitter VDI518110
- One Ethernet switch VDI634017
- One ADSL filter VDI535036
- One testing equipment VDI560020
- Several dedicated patch cords for TV, telephone, data in order to connect end user devices or Operator devices like Triple Play "Box".

The representative product used for the analysis is DELTA 8 - VDI533017.

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.

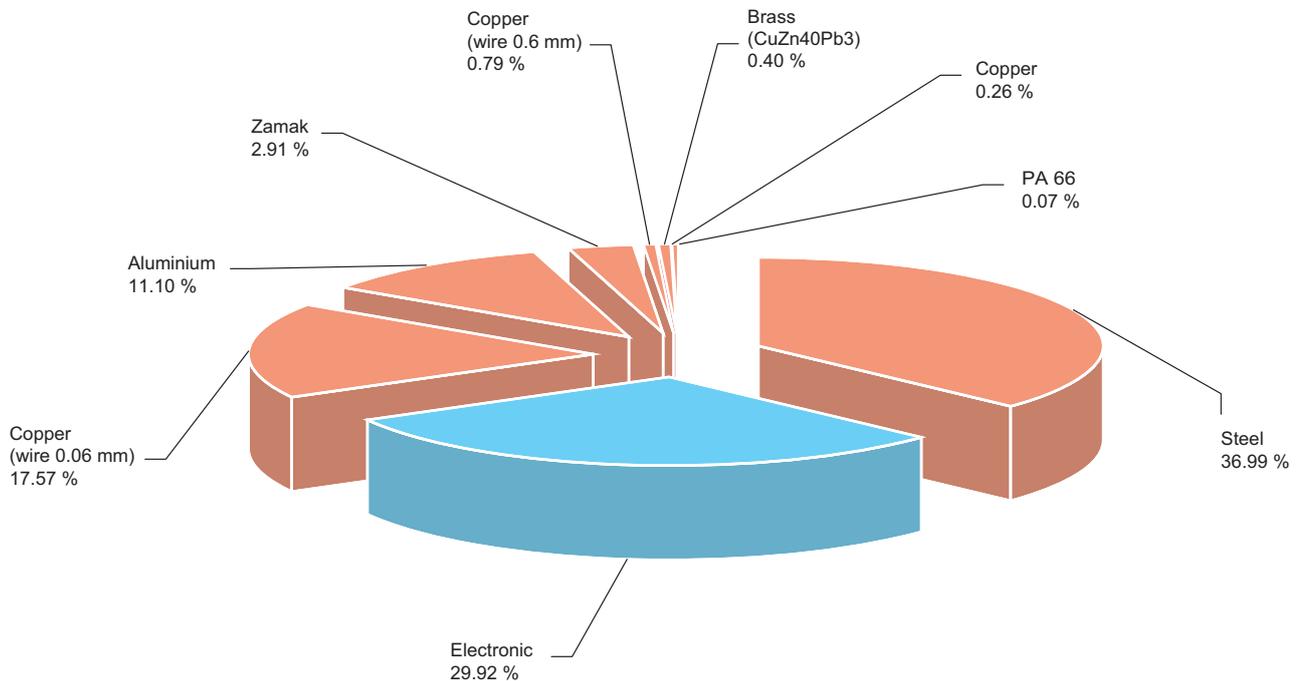
The environmental analysis was performed in conformity with ISO14040 "Environmental management: Life cycle assessment – Principle and framework".

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

Constituent materials

The mass of the range products spreads out between 1514 g +/- 10 % packing excluded. It is 1514 g for the DELTA 8 - VDI533017.

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, polybromodiphenylthethers PBDE) as mentioned in the Directive.

Manufacturing

The DELTA 8 is manufactured at a production site which complies with the regulations governing industrial sites.

Product Environmental Profile - PEP

Distribution

The weight and volume of the packaging have been reduced, in compliance with the European Union's packaging directive.
 The DELTA 8 packaging weight is 339 g. It consists of Cardboard (96 % recycled, grey board) 212 g, PE (Linear Low Density, LLDPE) 115 g, Paper 12 g.
 The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

Utilization

The products of the DELTA 8 range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).
 The dissipated power depends on the conditions under which the product is implemented and used.
 The electrical power consumed by the DELTA 8 - VDI533017 range spreads out between 11.4 W and 12.6 W. It is 12 W in active mode and 0% in standby mode for the referenced DELTA 8 - VDI533017.

End of life

At end of life, the products of the DELTA 8 must be dismantled 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, Brass, Copper, Steel (stainless), Zamak, PA 66, Copper (wire).
 The products of this range also include Electronic board which have to be disassembled and which must be sent to specialised treatment systems.
 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 10 years with a utilisation rate of the installation of 100 % and the electrical power model used is ON.
 The scope of the analysis was limited to a DELTA 8 - VDI533017.
 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	Delta 8 (1,000 unit)			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	1.61E ⁻¹³	1.46E ⁻¹³	5.64E ⁻¹⁶	1.44E ⁻¹⁴
Energy depletion	ED	MJ	13825	546.88	430.96	12847
Water depletion	WD	dm ³	2310.1	319.61	3.865	1986.6
Global warming	GW	g ~CO ₂	720360	32722	31185	656450
Ozone depletion	OD	g ~CFC-11	0.063239	0.006625	0.000129	0.056484
Photochemical ozone creation	POC	g ~C ₂ H ₄	272.34	18.356	26.169	227.81
Air acidification	AA	g ~H ⁺	114.87	7.268	3.712	103.89
Hazardous waste production	HWP	kg	11.145	0.68029	0.002645	10.462

The life cycle analysis shows that the Use phase (M, D or U phase) 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.
 For example, if an output is not used, all dedicated electronic processing for this will be switch off.
 The environmental impacts variability between the upper part and the lower part of the range is less than 5 %.

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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Schneider Electric Industries SAS

35, rue Joseph Monier
CS30323
F - 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776 €
www.schneider-electric.com



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