

Actassi S-One
RJ45 unshielded connector

Product Environmental Profile



Product Environmental Profile - PEP

Product overview

The main function of the Actassi S-One RJ45 Connector product range is as connecting hardware interface as specified within standard ISO11801 for the transmission over Ethernet protocols over LAN (Local Area Network) cabling installation within Buildings & Data Centres.

This range consists of RJ45 connectors designed & manufactured to transmit the following categories protocols in accordance with the international standards for Cat 3, Cat 5, Cat 5e, Cat 6, Cat 6A and Cat 7A at 100 Ohms at the appropriate MHz frequencies.

The connector concerned can have 2 different footprints: S-One version or S-One DPM version.

The representative product used for the analysis is Actassi S-One RJ45 Cat 5e unshielded connector, commercial reference, VDIB17725U12.

The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with the similar technology.

The extrapolation rules are described in the following chapters.

The environmental analysis was performed in conformity with ISO14040.

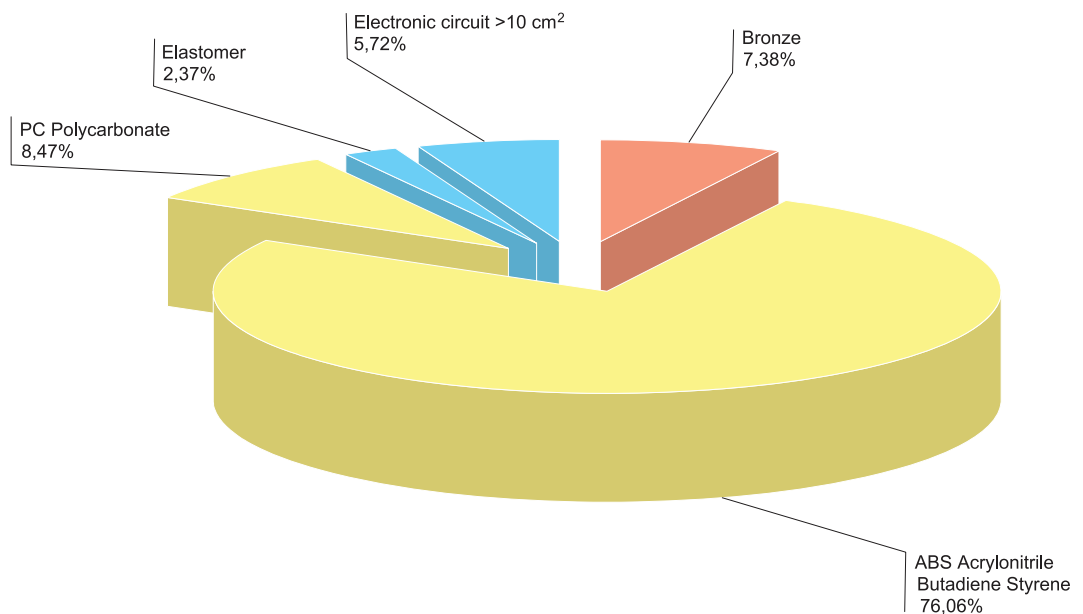
This analysis takes the stages of the life cycle of the product into account.

Constituent materials

The mass of the product range is from 6 g and 8 g not including packaging.

It is 7.58 g for the Actassi S-One RJ45 Cat 5e unshielded connector, commercial reference, VDIB17725U12.

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 Actassi S-One RJ45 unshielded connector product range is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

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 Actassi S-One RJ45 Cat 5e unshielded connector packaging weight is 4.34 g.
 It consists of: PE, Low Density LDPE Film, (0.043 g), Paper, recycled with deinking, (0.292 g) and Cardboard, 5 layers 80% recycled, (4 g).
 The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

Utilization

The products of the Actassi S-One RJ45 Cat 5e unshielded connector range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on) in using phase.
 The dissipated power depends on the conditions under which the product is implemented and used.
 This dissipated power is negligible for the Actassi S-One RJ45 Cat 5e unshielded connector product range.

End of life

At end of life, the products in the Actassi S-One RJ45 Cat 5e unshielded connector have been optimized to decrease the amount of waste and valorise the components and materials of the product in the usual end of life treatment process.
 The potential of recyclability of the products has been evaluated using the "Codde" recyclability and recoverability calculation method" (version V1, 20 Sep. 2008) and published by ADEME (French Agency for Environment and Energy Management).
 By this method, this product range doesn't contain recyclable materials as the lack of processes for recycling these plastics types.

Environmental impacts

The environmental impacts were analysed for the Manufacturing (M) phases, the Distribution (D) and the Utilisation (U) phases.
 This product range is included in the category Energy passing (assumed lifetime service is 20 years and using scenario: Loading rate is 100% and uptime percentage is 100%).
 The EIME (Environmental Impact and Management Explorer) software, version 4.0, and its database, version 10.0 were used for the life cycle assessment (LCA).
 The calculation has been done on Actassi S-One RJ45 Cat 5e unshielded connector, commercial reference, VDIB17725U12.
 The electrical power model used is European model.

Presentation of the environmental impacts

Environmental indicators	Short	Unit	For 1 Actassi S-One RJ45 Cat 5e unshielded connector Ref: VDIB17725U12			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	2.35E ⁻¹⁵	2.35E ⁻¹⁵	1.99E ⁻¹⁹	0.00E ⁺⁰⁰
Energy depletion	ED	MJ	2.109	1.853	2.56E ⁻⁰¹	0.00E ⁺⁰⁰
Water depletion	WD	dm ³	1.391	1.183	2.08E ⁻⁰¹	0.00E ⁺⁰⁰
Global warming	GW	g ~CO ₂	1.13E ⁺⁰²	1.06E ⁺⁰²	7.579	0.00E ⁺⁰⁰
Ozone depletion	OD	g ~CFC-11	1.73E ⁻⁰⁵	1.28E ⁻⁰⁵	4.55E ⁻⁰⁶	0.00E ⁺⁰⁰
Photochemical ozone creation	POC	m ³	2.83E ⁺⁰⁴	2.60E ⁺⁰⁴	2.26E ⁺⁰³	0.00E ⁺⁰⁰
Air acidification	AA	g ~C ₂ H ₄	5.10E ⁻⁰²	4.48E ⁻⁰²	6.20E ⁻⁰³	0.00E ⁺⁰⁰
Hazardous waste production	HWP	g ~H ⁺	2.22E ⁻⁰²	2.06E ⁻⁰²	1.69E ⁻⁰³	0.00E ⁺⁰⁰
Water eutrophication	WE	dm ³	54.862	51.427	3.435	0.00E ⁺⁰⁰
Air toxicity	AT	g ~PO ₄	1.49E ⁻⁰²	1.35E ⁻⁰²	1.39E ⁻⁰³	0.00E ⁺⁰⁰
Water toxicity	WT	kg	1.91E ⁻⁰³	1.90E ⁻⁰³	7.39E ⁻⁰⁶	0.00E ⁺⁰⁰

The life cycle analysis shows that the M 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.

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.

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 m 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. This effect is quantified in gram equivalent 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. 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 (C ₂ H ₄).
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.



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

Schneider Electric Industries SAS
35 rue Joseph Monier
92500 Rueil-Malmaison
France
www.schneider-electric.com

This document is based on ISO14020 which relates to the general principles of environmental declarations and the ISO14025 relating to type III environmental declarations.

Produced according to the instructions in the Product Environmental Profiles Drafting Guide version V5.

Produced and published by: Schneider Electric