Product Environmental Profile

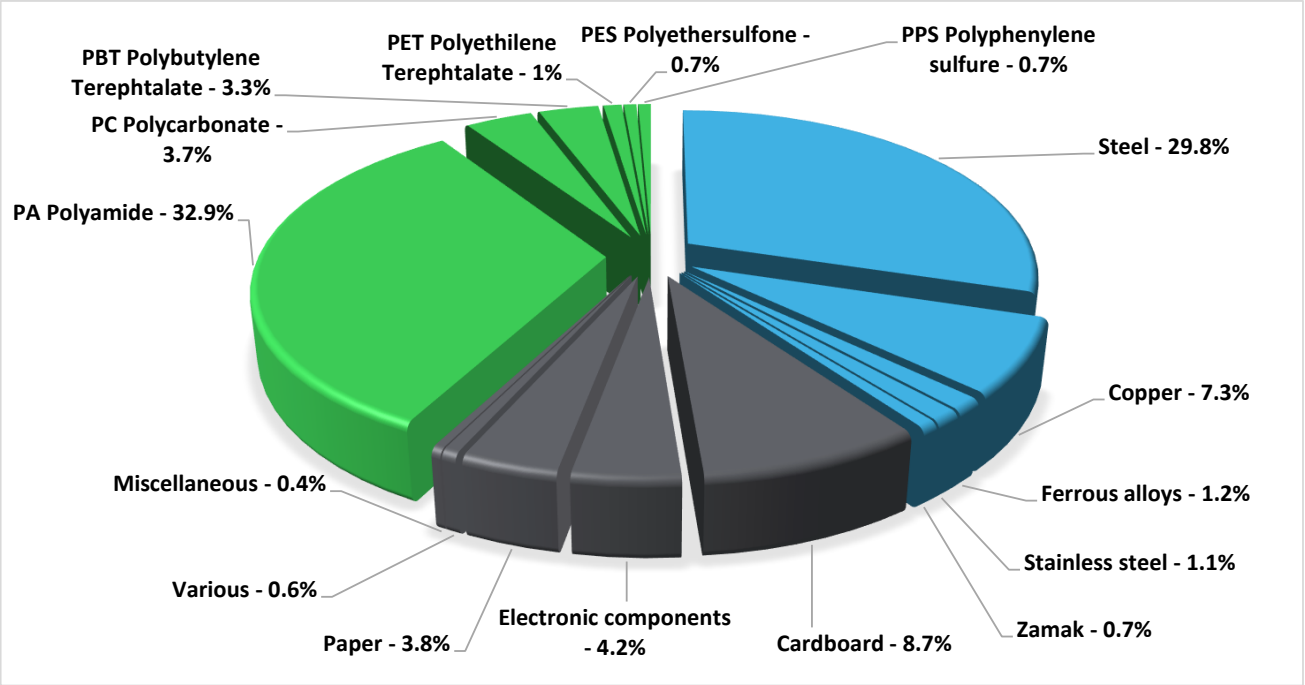
Arc fault detection circuit breaker

General information

Representative product	Arc fault detection circuit breaker - A9FDB616
Description of the product	The main purpose of the ARCs products is to reduce the risk of electrical fires. It combines the following functions: Protection against fire hazards by detection of abnormal electric arcs; Protection against load fire hazards due to slow overvoltages; Circuit opening and positive break indication (green strip); Fire hazard tripping indication via the front panel indicator; Device self-diagnostics via the test button.
Functional unit	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage 230V and rated current In 16A. This protection is ensured in accordance with the following parameters: - Number of poles 1P + N

Constituent materials

Reference product mass	220 g	including the product, its packaging and additional elements and accessories



Plastics	42.3%
Metals	40.0%
Others	17.7%

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page

Additional environmental information

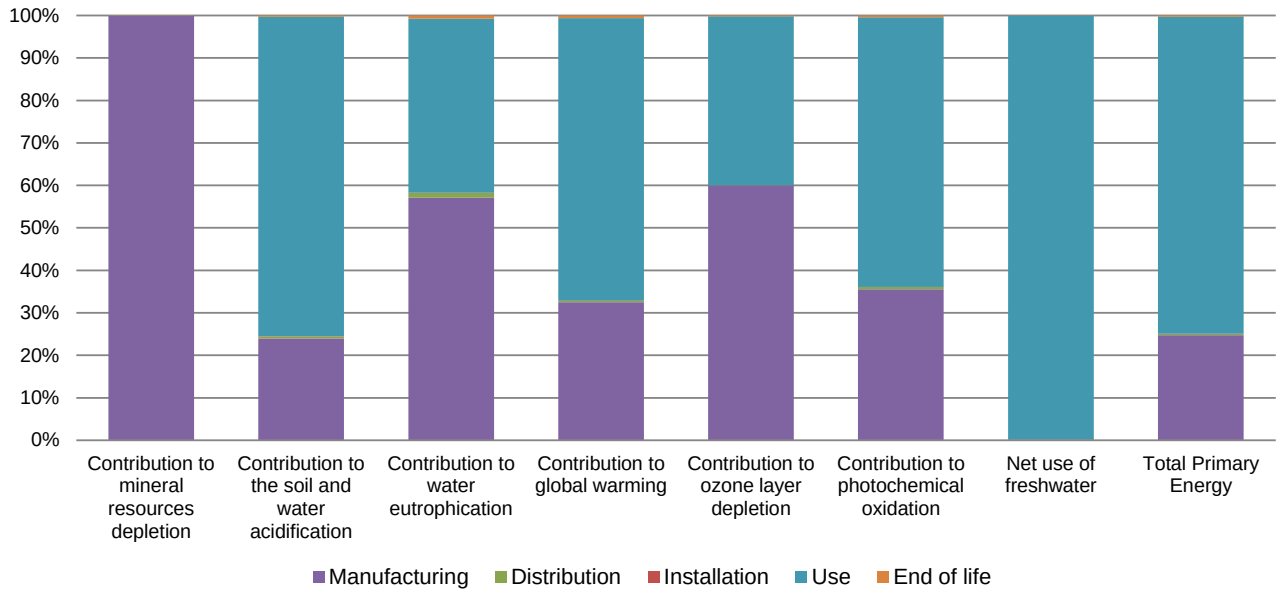
The Arc fault detection circuit breaker presents the following relevent environmental aspects	
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 30 g, consisting of cardboard (66.1%), Paper (33.9%)
Installation	Ref A9FDB616 does not require any installation operations.
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains electronic card (8g) that should be separated from the stream of waste so as to optimize end-of-life treatment. The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: **44%** Based on “ECO’DEEE recyclability and recoverability calculation method” (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

Environmental impacts

Reference life time	20 years
Product category	Circuit-breakers
Installation elements	No special components needed
Use scenario	Load rate: 50% of In Use time rate: 30% of RLT
Geographical representativeness	Germany
Technological representativeness	The main purpose of the ARCs products is to reduce the risk of electrical fires. It combines the following functions: Protection against fire hazards by detection of abnormal electric arcs; Protection against load fire hazards due to slow overvoltages; Circuit opening and positive break indication (green strip); Fire hazard tripping indication via the front panel indicator; Device self-diagnostics via the test button.

Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Germany	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators	Arc fault detection circuit breaker - A9FDB616						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	1.49E-03	1.49E-03	0*	0*	3.92E-07	0*
Contribution to the soil and water acidification	kg SO_2 eq	2.50E-02	5.98E-03	1.30E-04	6.77E-06	1.88E-02	6.36E-05
Contribution to water eutrophication	kg PO_4^{3-} eq	2.77E-03	1.58E-03	2.99E-05	1.64E-06	1.14E-03	2.00E-05
Contribution to global warming	kg CO_2 eq	6.79E+00	2.21E+00	2.84E-02	1.62E-03	4.51E+00	4.44E-02
Contribution to ozone layer depletion	kg CFC11 eq	7.39E-07	4.43E-07	0*	0*	2.94E-07	1.73E-09
Contribution to photochemical oxidation	kg C_2H_4 eq	1.63E-03	5.78E-04	9.25E-06	5.04E-07	1.03E-03	6.41E-06
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1.64E+01	1.78E-02	0*	0*	1.63E+01	0*
Total Primary Energy	MJ	1.21E+02	2.98E+01	4.01E-01	2.12E-02	9.00E+01	3.03E-01



Optional indicators	Arc fault detection circuit breaker - A9FDB616						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	7.00E+01	1.82E+01	3.99E-01	2.11E-02	5.12E+01	2.44E-01
Contribution to air pollution	m³	5.14E+02	3.17E+02	1.21E+00	6.46E-02	1.94E+02	2.20E+00
Contribution to water pollution	m³	6.82E+02	4.88E+02	4.67E+00	2.46E-01	1.86E+02	2.95E+00
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2.38E-02	2.38E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	1.24E+01	9.95E-01	0*	0*	1.14E+01	0*
Total use of non-renewable primary energy resources	MJ	1.08E+02	2.88E+01	4.01E-01	2.12E-02	7.86E+01	3.02E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.20E+01	6.01E-01	0*	0*	1.14E+01	0*
Use of renewable primary energy resources used as raw material	MJ	3.94E-01	3.94E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.05E+02	2.62E+01	4.01E-01	2.12E-02	7.86E+01	3.02E-01
Use of non renewable primary energy resources used as raw material	MJ	2.58E+00	2.58E+00	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	8.09E+00	7.77E+00	0*	0*	2.35E-03	3.18E-01
Non hazardous waste disposed	kg	1.82E+01	1.39E+00	0*	0*	1.68E+01	0*
Radioactive waste disposed	kg	1.18E-02	5.64E-04	0*	0*	1.12E-02	1.54E-06
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1.36E-01	2.16E-02	0*	2.83E-02	0*	8.61E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	8.24E-03	0*	0*	0*	0*	8.24E-03
Exported Energy	MJ	8.98E-05	8.44E-06	0*	8.14E-05	0*	0*

** represents less than 0.01% of the total life cycle of the reference flow*

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number :	SCHN-00516-V01.01-EN	*Drafting rules*	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH33	*Supplemented by*	PSR-0005-ed2-EN-2016 03 29
Date of issue	12/2019	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14025 : 2010

Internal External X

The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)

PEP are compliant with XP C08-100-1 :2016

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »

Schneider Electric Industries SAS

Country Customer Care Center
http://www.schneider-electric.com/contact

35, rue Joseph Monier

CS 30323

F- 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.schneider-electric.com

Published by Schneider Electric