

Product Environmental Profile

Resi9 Miniature circuit breaker C Curve

as referent product for :

All MCBs in Resi9 Range





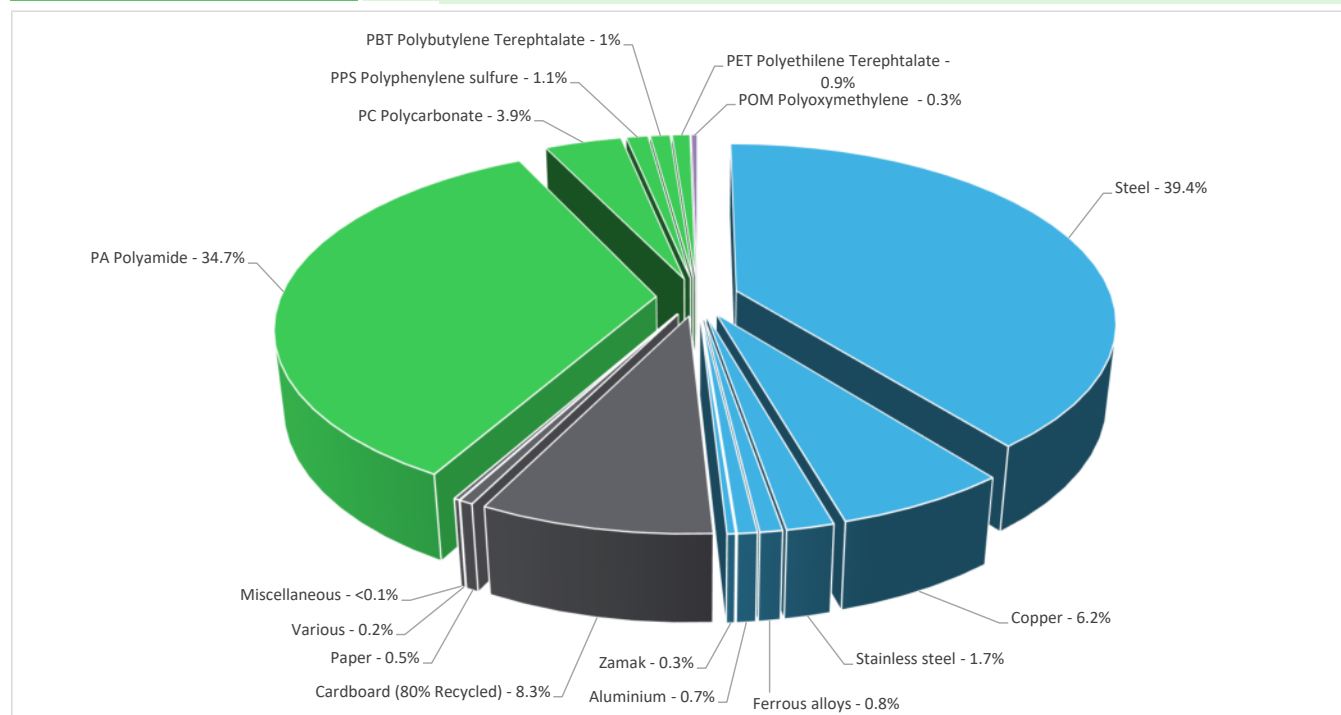
General information

Reference product	Resi9 Miniature circuit breaker C Curve - R9F06116
Description of the product	Resi9 one-pole miniature circuit breaker R9F06116 is designed to protect residential installations against overloads and short-circuits
Description of the range	<p>The indicators values of this Resi9 MCB can be extrapolated, based on the Mass and Energy values of the products, for other Resi9 MCB range of products.</p> <p>The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology.</p>
Functional unit	<p>Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage [U] 230V AC and rated current [In] 16A. This protection is ensured in accordance with the following parameters:</p> <ul style="list-style-type: none"> - Number of poles Np-1 - Rated breaking capacity Icn- 6000A - Tripping curve-C



Constituent materials

Reference product mass	123.5 g including the product, its packaging and additional elements and accessories
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Plastics	41.9%
Metals	49.1%
Others	9%



Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<https://www.se.com/ww/en/work/support/green-premium/>



Additional environmental information

End Of Life	Recyclability potential:	53%	Recyclability rate has been calculated based on REEECYLAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEE recyclability and recoverability calculation method" was taken. If no data was found a conservative assumption was used (0% recyclability).
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Environmental impacts

Reference service life time	20 years			
Product category	Circuit-breakers			
Installation elements	The product does not require special installation procedure and requires little to no energy to install.			
Use scenario	Load rate: 50% of 16A (In) Use time rate: 30% of the time over 20 years (RLT)			
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production.			
Geographical representativeness	New Zealand			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Production mix; Low voltage; IN	Electricity mix; AC; consumption mix, at consumer; 230V; NZ	Electricity mix; AC; consumption mix, at consumer; 230V; NZ	Electricity mix; AC; consumption mix, at consumer; 230V; NZ

Mandatory Indicators			Resi9 Miniature circuit breaker C Curve - R9F06116					
Impact indicators	Unit	Total	Manufacturing [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to climate change	kg CO2 eq	4.70E+00	7.80E-01	6.57E-02	1.97E-02	3.51E+00	3.20E-01	-1.14E+00
Contribution to climate change-fossil	kg CO2 eq	4.69E+00	7.72E-01	6.57E-02	1.88E-02	3.51E+00	3.18E-01	-1.13E+00
Contribution to climate change-biogenic	kg CO2 eq	1.03E-02	7.80E-03	0*	8.76E-04	0*	1.58E-03	-6.77E-03
Contribution to climate change-land use and land use change	kg CO2 eq	2.64E-08	0*	0*	0*	0*	2.64E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	3.32E-07	2.36E-07	5.80E-08	1.30E-09	3.41E-08	1.79E-09	-1.68E-07
Contribution to acidification	mol H+ eq	2.18E-02	7.64E-03	2.89E-04	7.82E-05	1.30E-02	7.60E-04	-7.89E-03
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	6.75E-05	1.10E-05	7.70E-09	1.42E-07	7.13E-08	5.62E-05	-2.11E-06
Contribution to eutrophication marine	kg N eq	3.20E-03	1.08E-03	1.33E-04	2.07E-05	1.83E-03	1.35E-04	-6.76E-04
Contribution to eutrophication, terrestrial	mol N eq	3.51E-02	1.18E-02	1.44E-03	1.56E-04	2.01E-02	1.57E-03	-7.77E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.13E-02	3.46E-03	4.71E-04	4.18E-05	6.81E-03	4.92E-04	-2.75E-03
Contribution to resource use, minerals and metals	kg Sb eq	1.42E-04	1.40E-04	0*	0*	1.74E-07	1.59E-06	-3.28E-04
Contribution to resource use, fossils	MJ	4.92E+01	1.28E+01	7.98E-01	2.05E-01	2.42E+01	1.11E+01	-2.48E+01
Contribution to water use	m3 eq	1.81E-01	0*	3.34E-03	8.42E-03	9.78E-02	1.11E-01	-5.11E-01

Inventory flows Indicators			Resi9 Miniature circuit breaker C Curve - R9F06116					
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.35E+01	2.29E-01	0*	1.47E-02	4.33E+01	3.88E-02	-1.48E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	4.63E-02	4.63E-02	0*	0*	0*	0*	-1.95E-01
Contribution to total use of renewable primary energy resources	MJ	4.36E+01	2.76E-01	0*	1.47E-02	4.33E+01	3.88E-02	-3.43E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4.78E+01	1.15E+01	7.98E-01	2.05E-01	2.42E+01	1.11E+01	-2.48E+01

Contribution to use of non renewable primary energy resources used as raw material	MJ	1.32E+00	1.32E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	4.92E+01	1.28E+01	7.98E-01	2.05E-01	2.42E+01	1.11E+01	-2.48E+01
Contribution to use of secondary material	kg	9.64E-03	9.64E-03	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of freshwater	m³	4.22E-03	0*	7.77E-05	1.96E-04	2.28E-03	2.58E-03	-1.19E-02
Contribution to hazardous waste disposed	kg	6.72E+00	6.54E+00	0*	0*	6.17E-02	1.16E-01	-2.60E+01
Contribution to non hazardous waste disposed	kg	1.01E+00	5.69E-01	0*	6.41E-02	3.25E-01	5.26E-02	-1.23E+00
Contribution to radioactive waste disposed	kg	3.09E-04	2.60E-04	1.31E-05	8.61E-06	2.46E-05	2.46E-06	-4.88E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	7.08E-02	0*	0*	1.08E-02	0*	6.00E-02	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the product	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00

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

Life cycle assessment performed with EIME version 5.9.4, database version 2022-01 in compliance with ISO14044.

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

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 :	ENVPEP2210011_V1	Drafting rules	PEP-PCR-ed4-2021 09 06
Validity period	5 years	Supplemented by	PSR-0005-ed2-2016 03 29
Date of issue	09/2023	Information and reference documents	www.pep-ecopassport.org
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal	X	External	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019			
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14021 : 2016 « Environmental labels and declarations. Type II environmental declarations »			

Schneider Electric Industries SAS
Country Customer Care Center
<http://www.schneider-electric.com/contact>
35, rue Joseph Monier
CS 30323
F- 92500 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 928 298 512 €

www.se.com

ENVPEP2210011_V1

Published by Schneider Electric

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09/2023