Product Environmental Profile

MAX9 VIGI ARC ELE C 16A 30MA AFDD

Max9

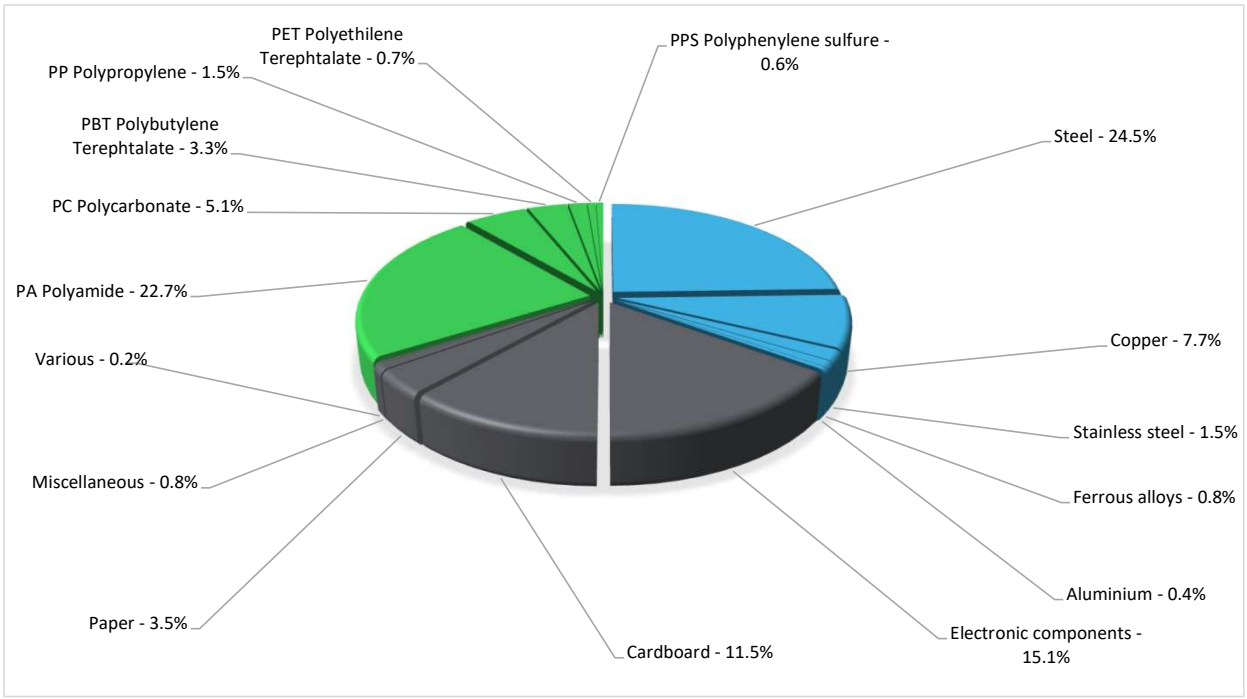


General information

Reference product	MAX9 VIGI ARC ELE C 16A 30MA AFDD - MX9A3216
Description of the product	The mian function of this product is to provide protection against fire hazards by detection of abnormal electric arcs; Protection against load fire hazards due to slow overvoltages; Fire hazard tripping indication via the front panel indicator; Device self-diagnostics via the test button.
Description of the range	This range consists of AFDD of 6 A to 25 A, 1 P +N, C curve. The representative product used for the analysis is MAX9 VIGI ARC ELE C 16A 30MA AFDD (commercial reference:MX9A3216). The mass of the products in this range is 233g to 240g including packaging. 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.
Functional unit	Protect during 10 years the installation against overloads and short-circuits and people and premises at risk of fire or explosion against insulation defects in circuit with assigned voltage 240 V and rated current 16 A. This protection is ensured in accordance with the following parameters: - Number of poles 1P+N - Rated breaking capacity 6000 A - Tripping curve C - Sensitivity 30 mA - Type of differential protection :A - Followed standards:EN/IEC 62606 AS/NZS 61009.1

Constituent materials

Reference product mass	237.9 g	including the product, its packaging and additional elements and accessories



Plastics	33.90%
Metals	35.00%
Others	31.10%

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:	**41%**	Recyclability rate has been calculated based on REEECY'LAB 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).

Environmental impacts

Reference service life time	20 years			
Product category	Differential circuit breaker			
Installation elements	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).			
Use scenario	Load rate: 50% of In Use time rate: 30% of 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	Australia			
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Production mix; Low voltage; CN	Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

Mandatory Indicators		**MAX9 VIGI ARC ELE C 16A 30MA AFDD - MX9A3216**						
Impact indicators	**Unit**	**Total**	**Manufacturing** [A1 - A3]	**Distribution** [A4]	**Installation** [A5]	**Use** [B1 - B7]	**End of Life** [C1 - C4]	**Loads and Benefits** [D]
Contribution to climate change	kg CO2 eq	5.15E+01	9.39E+00	3.11E-02	6.71E-02	4.15E+01	5.04E-01	-4.06E-01
Contribution to climate change-fossil	kg CO2 eq	5.15E+01	9.37E+00	3.11E-02	6.41E-02	4.15E+01	4.97E-01	-3.98E-01
Contribution to climate change-biogenic	kg CO2 eq	4.82E-02	1.77E-02	0*	2.98E-03	2.02E-02	7.33E-03	-7.38E-03
Contribution to climate change-land use and land use change	kg CO2 eq	7.13E-08	7.40E-09	0*	0*	0*	6.39E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.41E-06	1.20E-06	0*	4.44E-09	2.02E-07	7.81E-09	-6.18E-08
Contribution to acidification	mol H+ eq	3.42E-01	6.59E-02	2.00E-04	2.66E-04	2.72E-01	2.97E-03	-5.13E-03
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	1.67E-04	2.94E-05	0*	4.85E-07	2.94E-07	1.37E-04	-1.38E-06
Contribution to eutrophication marine	kg N eq	3.90E-02	7.21E-03	9.40E-05	7.05E-05	3.01E-02	1.48E-03	-3.05E-04
Contribution to eutrophication, terrestrial	mol N eq	4.24E-01	7.70E-02	1.03E-03	5.32E-04	3.42E-01	2.99E-03	-3.22E-03
Contribution to photochemical ozone formation - human health	kg MNVOC eq	1.28E-01	2.57E-02	2.60E-04	1.42E-04	1.01E-01	9.63E-04	-1.22E-03
Contribution to resource use, minerals and metals	kg Sb eq	1.18E-03	1.17E-03	0*	0*	6.41E-07	3.84E-06	-1.01E-04
Contribution to resource use, fossils	MJ	7.75E+02	1.18E+02	4.33E-01	6.98E-01	6.41E+02	1.50E+01	-7.33E+00
Contribution to water use	m3 eq	2.67E+01	2.00E+00	0*	2.87E-02	1.64E+00	2.31E+01	-3.09E-01

Additional indicators for the French regulation are available as well

Inventory flows Indicators		MAX9 VIGI ARC ELE C 16A 30MA AFDD - MX9A3216						
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Loads and Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.18E+01	3.14E+00	0*	5.01E-02	4.84E+01	1.92E-01	2.66E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	7.13E-01	7.13E-01	0*	0*	0*	0*	-6.64E-01
Contribution to total use of renewable primary energy resources	MJ	5.25E+01	3.86E+00	0*	5.01E-02	4.84E+01	1.92E-01	-3.98E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	7.72E+02	1.15E+02	4.33E-01	6.98E-01	6.41E+02	1.50E+01	-7.33E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	2.81E+00	2.81E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	7.75E+02	1.18E+02	4.33E-01	6.98E-01	6.41E+02	1.50E+01	-7.33E+00
Contribution to use of secondary material	kg	7.74E-06	7.74E-06	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	m^3	6.89E-01	4.66E-02	0*	6.67E-04	3.83E-02	6.03E-01	-7.19E-03
Contribution to hazardous waste disposed	kg	2.73E+01	2.60E+01	0*	0*	1.06E+00	2.12E-01	-8.28E+00
Contribution to non hazardous waste disposed	kg	9.85E+00	2.88E+00	1.09E-03	2.18E-01	6.67E+00	7.87E-02	-1.19E+00
Contribution to radioactive waste disposed	kg	1.66E-03	9.64E-04	7.77E-07	2.93E-05	6.57E-04	3.94E-06	-1.61E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.22E-01	0*	0*	3.69E-02	0*	8.48E-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 v5.9.4, database version 2022-01 in compliance with ISO14044.

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

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.

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		Validity period	5 years
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 »			

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