Product Environmental Profile

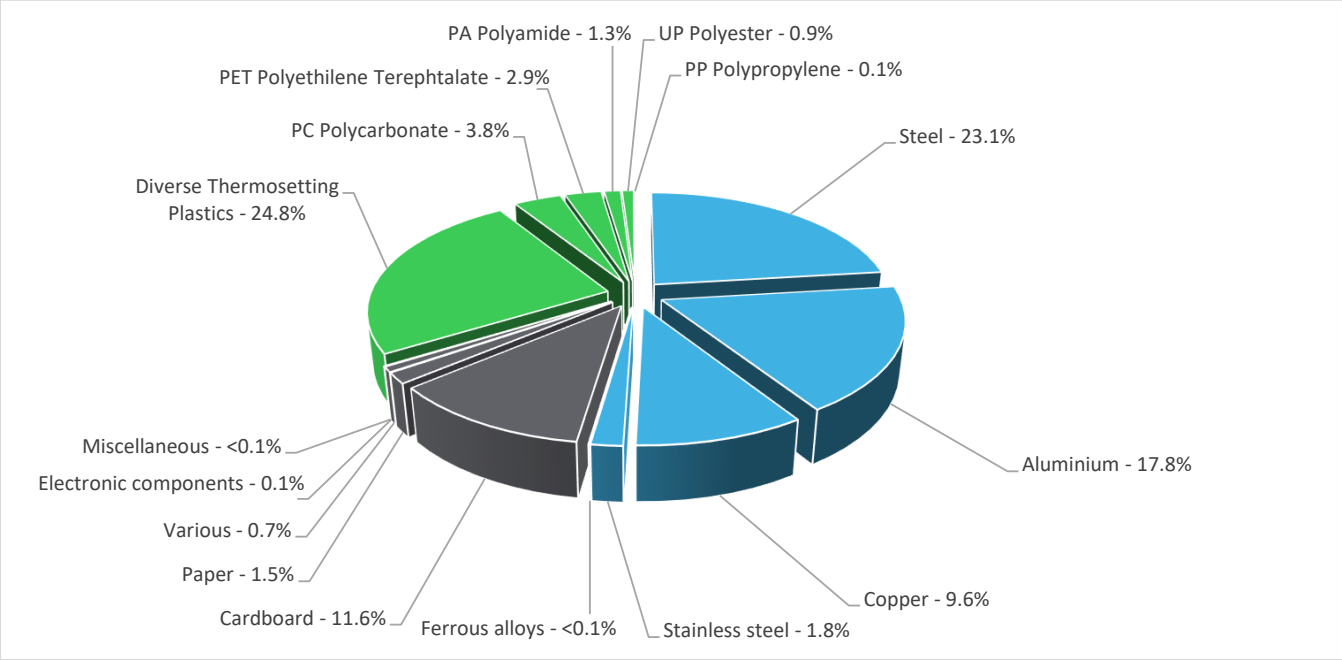
PowerPact™ M-Frame Molded Case Circuit Breaker

General information

Representative product	PowerPact™ M-Frame Molded Case Circuit Breaker - MGL36800 - PowerPact M-frame 3 Poles 800A 600V MCCB
Description of the product	The main purpose of the PowerPact™ M-Frame Molded Case Circuit Breaker (MCCB) product range is to protect electrical systems from damages caused by overloads and short circuits.
Functional unit	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage 600V and rated current 800A. This protection is ensured in accordance with the following parameters: Number of poles Np : 3 Rated breaking capacity Icn: 18kA @ 600V CA Tripping Curve Cd: Long-Time and Instantaneous

Constituent materials

Reference product mass	13927 g	including the product, its packaging and additional elements and accessories



Plastics	33.8%
Metals	52.3%
Others	13.9%

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

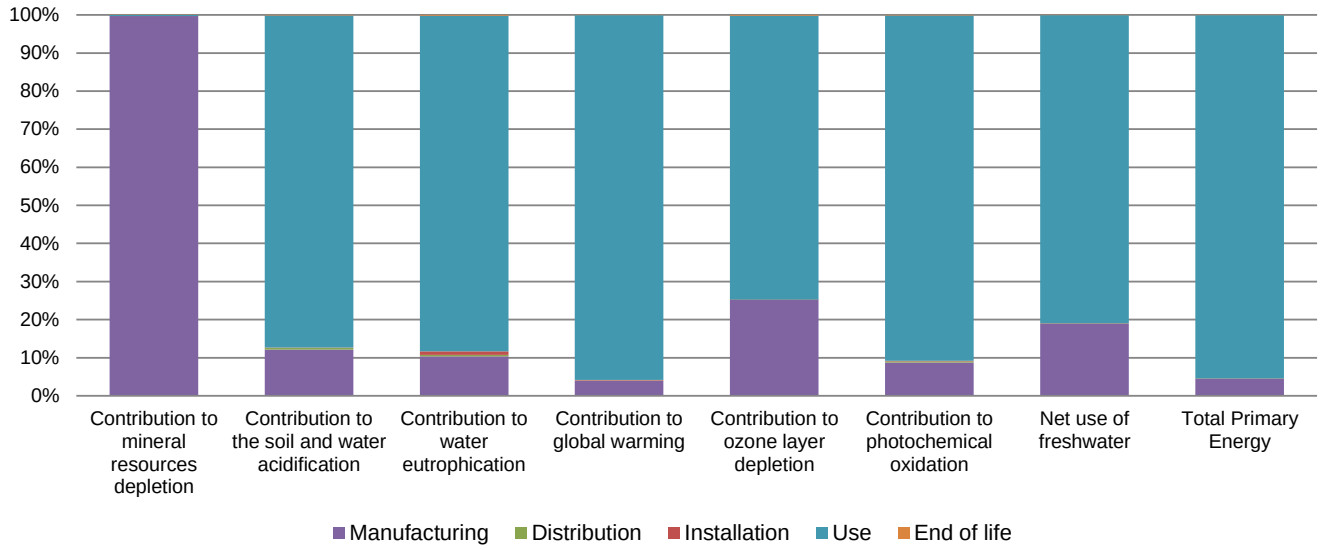
Additional environmental information

The PowerPact™ M-Frame Molded Case 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 1877.6 g, consisting of Cardboard (88.4%), Paper (11.3%), Plastic (0.28%) Product distribution optimised by setting up local distribution centres
Installation	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	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 board (13.07g) that should be separated from the stream of waste so as to optimize end-of-life treatment. http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: **55%** 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	End of life of the packaging materials for installation			
Use scenario	Power disipation at 100% Load rate is 211.2 W and at 50% load rate is 52.8 W.			
Geographical representativeness	United States			
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.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: US	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US

Compulsory indicators		PowerPact™ M-Frame Molded Case Circuit Breaker					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	6.81E-03	6.79E-03	0*	0*	1.89E-05	0*
Contribution to the soil and water acidification	kg SO_2 eq	2.11E+00	2.56E-01	1.08E-02	5.04E-04	1.84E+00	3.74E-03
Contribution to water eutrophication	kg PO_4^{3-} eq	5.50E-01	5.68E-02	2.50E-03	5.09E-03	4.85E-01	1.03E-03
Contribution to global warming	kg CO_2 eq	2.01E+03	7.87E+01	2.39E+00	2.67E+00	1.92E+03	1.92E+00
Contribution to ozone layer depletion	kg CFC11 eq	4.68E-05	1.18E-05	4.82E-09	6.62E-09	3.49E-05	8.46E-08
Contribution to photochemical oxidation	kg C_2H_4 eq	3.25E-01	2.85E-02	7.79E-04	6.45E-04	2.95E-01	3.91E-04
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	4.20E+00	8.00E-01	0*	0*	3.40E+00	1.69E-03
Total Primary Energy	MJ	2.71E+04	1.21E+03	3.37E+01	0*	2.59E+04	1.82E+01



Optional indicators		PowerPact™ M-Frame Molded Case Circuit Breaker					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2.42E+04	7.90E+02	3.35E+01	0*	2.34E+04	1.46E+01
Contribution to air pollution	m³	1.81E+05	1.76E+04	1.06E+02	0*	1.63E+05	1.31E+02
Contribution to water pollution	m³	1.02E+05	6.68E+03	3.92E+02	1.53E+02	9.47E+04	1.57E+02
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.58E+00	1.58E+00	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	1.61E+03	5.47E+01	0*	0*	1.55E+03	0*
Total use of non-renewable primary energy resources	MJ	2.55E+04	1.15E+03	3.36E+01	0*	2.43E+04	1.82E+01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.57E+03	1.83E+01	0*	0*	1.55E+03	0*
Use of renewable primary energy resources used as raw material	MJ	3.65E+01	3.65E+01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.54E+04	1.02E+03	3.36E+01	0*	2.43E+04	1.82E+01
Use of non renewable primary energy resources used as raw material	MJ	1.36E+02	1.36E+02	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	5.94E+02	5.24E+02	0*	0*	5.14E+01	1.81E+01
Non hazardous waste disposed	kg	4.06E+02	1.11E+02	8.46E-02	1.88E+00	2.94E+02	5.58E-02
Radioactive waste disposed	kg	8.60E-02	5.56E-02	6.03E-05	0*	3.02E-02	8.81E-05
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	8.17E+00	1.40E+00	0*	0*	0*	6.77E+00
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.50E-01	0*	0*	0*	0*	2.50E-01
Exported Energy	MJ	5.92E-03	5.55E-04	0*	5.36E-03	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.

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		Validity period	5 years

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

Internal X External

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 »

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