Product Environmental Profile

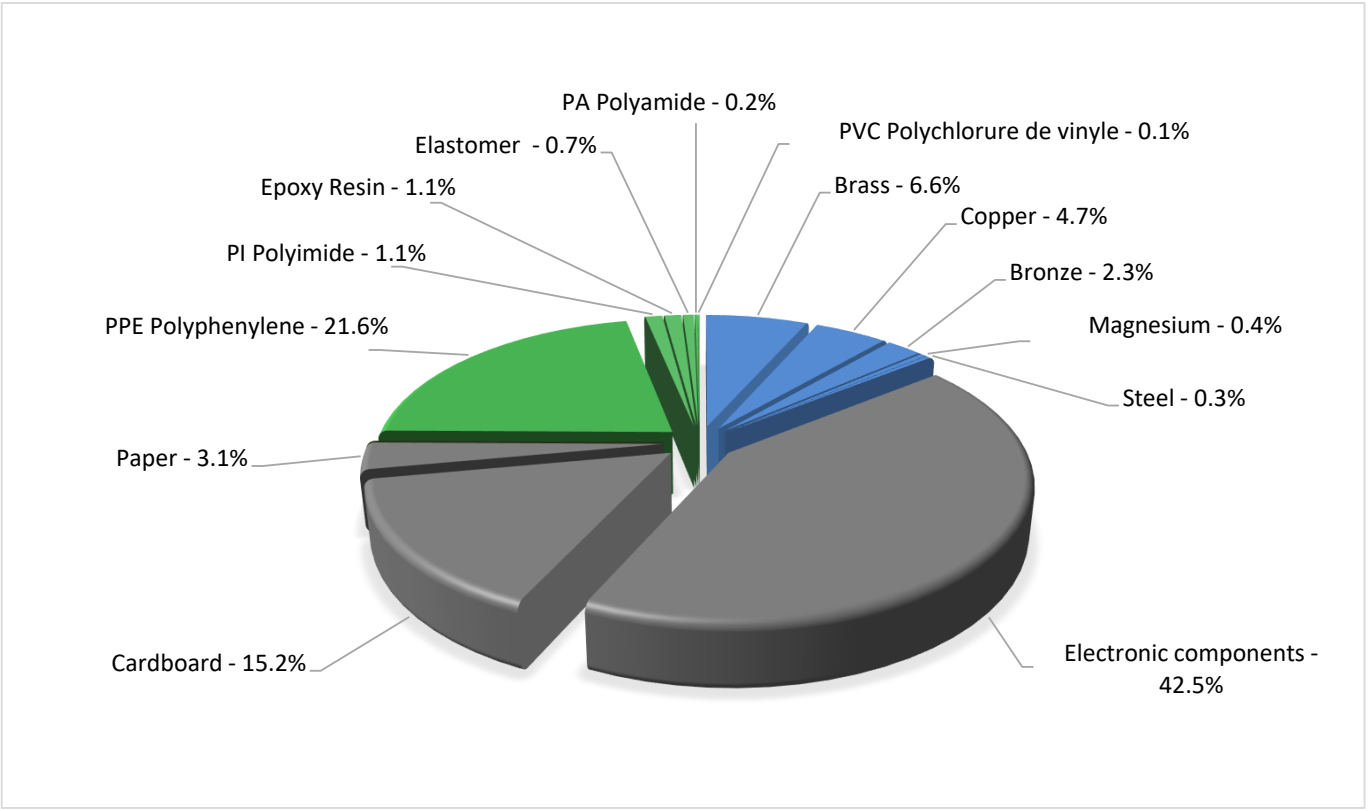
QO series Surgebreaker Surge Protective Device (SPD)

General information

Representative product	QO series Surgebreaker Surge Protective Device (SPD) - QO2175SB
Description of the product	Surge suppression of single-phase, three-wire, 120/240 Vac, 50/60 Hz electrical services and appliances
Functional unit	Protect during 20 years against direct or indirect effects of lightning or against transient overvoltages electrical equipements connected to electrical networks with a rated operational voltage up to 120/240 Vac -Comply with UL1449 standards -Complies with requirements of NEC® Article 285,CSA 233.1-87,and CSA C22.2 No.8-M1986 as appropriate

Constituent materials

Reference product mass	260 g	including the product, its packaging and additional elements and accessories



	Plastics	24.9%
	Metals	14.3%
	Others	60.8%

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 EU 2015/863) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers – PBDE, Bis(2-ethylhexyl) phthalate -DEHP, Butyl benzyl phthalate -BBP, Dibutyl phthalate – DBP, Diisobutyl phthalate - DIBP) 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

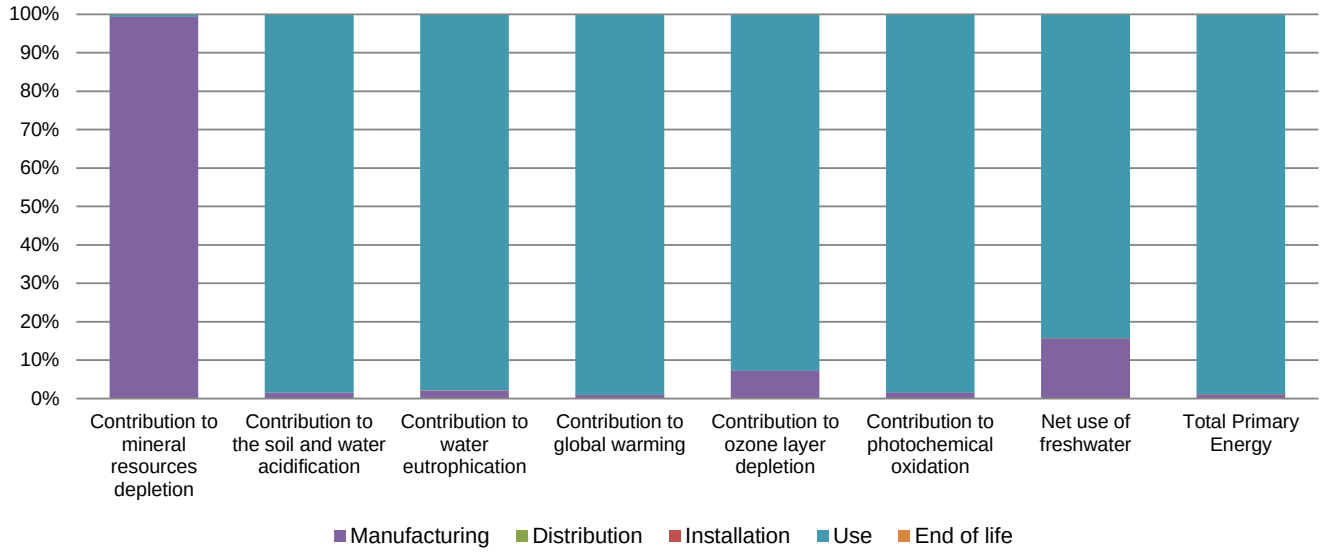
The QO series Surgebreaker Surge Protective Device (SPD) presents the following relevent environmental aspects	
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 47 g, consisting of cardboard (83%), Paper(17%)
Installation	Reference QO2175SB does not require any installation operations.Packaging waste is considered in installation.
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 (47.7g) 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: **39%** 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	Surge arresters and Surge protective devices type 1, 2 or 3 connected to low voltage power systems
Installation elements	No special components needed
Use scenario	Load factor : 100% of Ic Use rate: 100 % of the RLT
Geographical representativeness	US
Technological representativeness	All the technologies pertaining to product manufacturing are represented in manufacturing, transporation and use phase properly

Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: MEXICO	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		**QO series Surgebreaker Surge Protective Device (SPD) - QO2175SB**					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	3.82E-04	3.80E-04	0*	0*	2.43E-06	0*
Contribution to the soil and water acidification	kg SO_2 eq	2.41E-01	3.51E-03	1.53E-04	0*	2.37E-01	8.41E-05
Contribution to water eutrophication	kg PO_4^{3-} eq	6.38E-02	1.33E-03	3.53E-05	0*	6.24E-02	3.49E-05
Contribution to global warming	kg CO_2 eq	2.50E+02	2.37E+00	3.35E-02	0*	2.47E+02	9.85E-02
Contribution to ozone layer depletion	kg CFC11 eq	4.84E-06	3.52E-07	0*	0*	4.49E-06	3.55E-09
Contribution to photochemical oxidation	kg C_2H_4 eq	3.86E-02	5.81E-04	1.09E-05	0*	3.80E-02	7.64E-06
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	5.19E-01	8.14E-02	0*	0*	4.37E-01	5.58E-05
Total Primary Energy	MJ	3.37E+03	3.70E+01	4.74E-01	0*	3.33E+03	3.77E-01



Optional indicators		QO series Surgebreaker Surge Protective Device (SPD) - QO2175SB					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	3.04E+03	2.30E+01	4.71E-01	0*	3.01E+03	3.07E-01
Contribution to air pollution	m³	2.14E+04	3.51E+02	0*	0*	2.10E+04	2.73E+00
Contribution to water pollution	m³	1.24E+04	2.20E+02	5.52E+00	0*	1.22E+04	4.85E+00
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.31E-02	1.31E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	2.01E+02	6.77E-01	0*	0*	2.00E+02	0*
Total use of non-renewable primary energy resources	MJ	3.17E+03	3.63E+01	4.74E-01	0*	3.13E+03	3.77E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.00E+02	0*	0*	0*	2.00E+02	0*
Use of renewable primary energy resources used as raw material	MJ	9.10E-01	9.10E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.17E+03	3.28E+01	4.74E-01	0*	3.13E+03	3.77E-01
Use of non renewable primary energy resources used as raw material	MJ	3.57E+00	3.57E+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	9.19E+00	2.19E+00	0*	0*	6.62E+00	3.85E-01
Non hazardous waste disposed	kg	3.94E+01	1.59E+00	0*	0*	3.78E+01	0*
Radioactive waste disposed	kg	4.37E-03	4.69E-04	8.49E-07	0*	3.89E-03	2.23E-06
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1.42E-01	1.42E-02	0*	4.68E-02	0*	8.14E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.45E-02	0*	0*	0*	0*	2.45E-02
Exported Energy	MJ	1.49E-04	1.40E-05	0*	1.35E-04	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	ENVPEP2002007_V1-EN	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	4/2020	*Supplemented by*	PSR-0005-ed2-EN-2016 03 29
Validity period	5 years	*Information and reference documents*	www.pep-ecopassport.org

Independent verification of the declaration and data

Internal X External

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 - Self-declared environmental claims (Type II environmental labelling) »

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Published by Schneider Electric