Product Environmental Profile

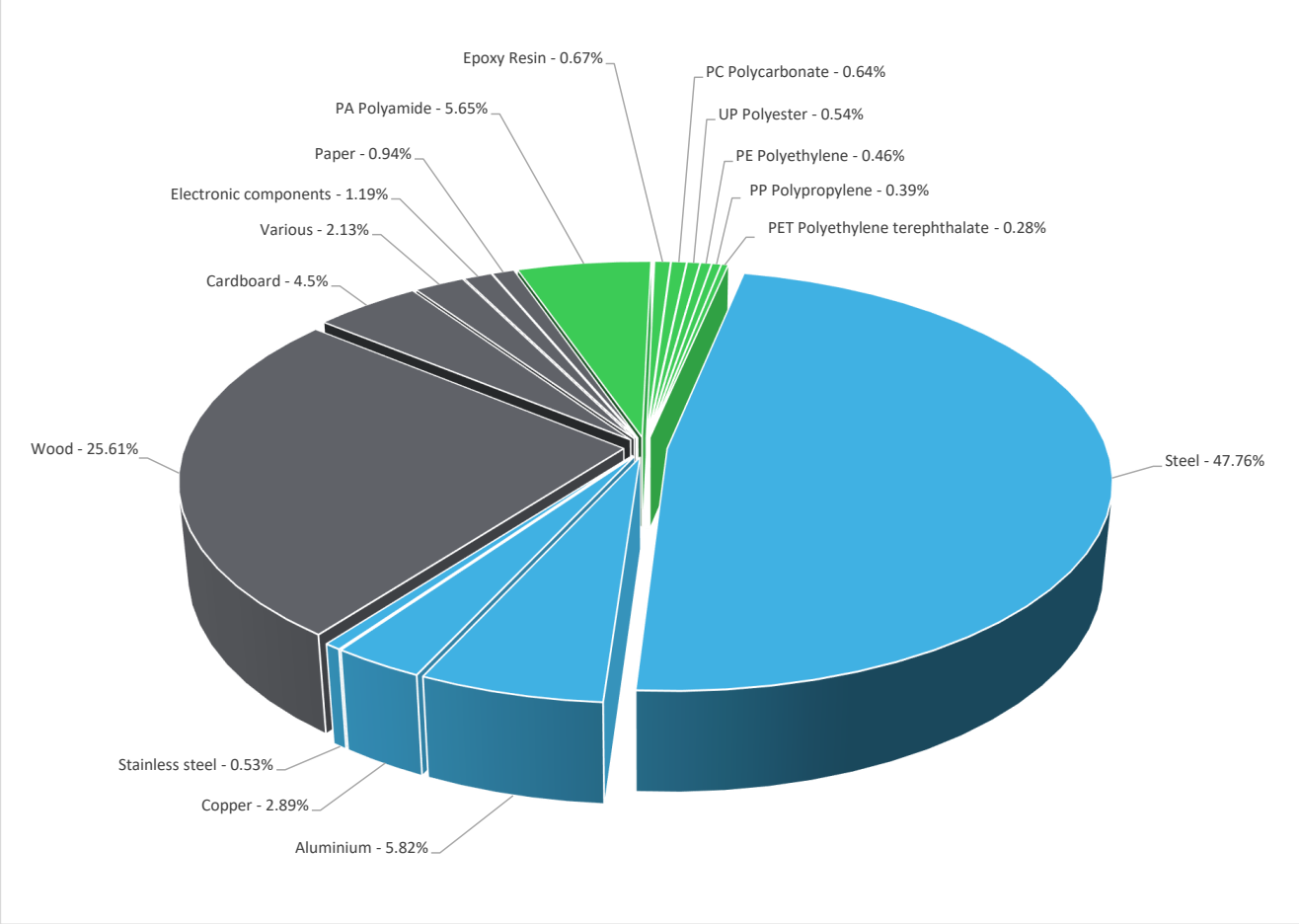
PowerLogic PFC Capacitor Bank

General information

Reference product	PowerLogic PFC Capacitor Bank - VLVAF2P03512AA
Description of the product	The entire Power Logic PFC range offers a unique combination of abilities to give you more convenience, reliability and performance across a broad of applications. And reduce CO2 emission.
Description of the range	Single product
Functional unit	Low voltage capacitor bank, to generate reactive energy from 6kvar to 1150kvar during 20 years
Specifications are:	PFC capacitor banks are built using a combination of low-voltage AC capacitors, detuned reactors, circuit breakers, and switching contactors. The product is controlled by an intelligent PFC controller/relay to maintain the power factor close to the set value.

Constituent materials

Reference product mass	350000 g	including the product, its packaging, additional elements and accessories



	Plastics	8.63%
	Metals	57.00%
	Others	34.37%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website
https://www.se.com

Additional environmental information

End Of Life	Recyclability potential:	**82%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	20 years			
Product category	Combinations of functions			
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study			
Electricity consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
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	The product is in active mode 72.50% the time with a power use of 390W and in stand-by mode 26.50% of the time with a power use of 60W and in sleep mode 1% of the time with a power use of 12W, an average loading factor is 60% during the life span of 20 years.			
	Product lifetime is considered 10 years for 'Power factor controller' and 'Shunt release for CB' module in PEP, so considered replacement of these 2 modules.			
Time representativeness	The collected data are representative of the year 2024			
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and Representative of the actual type of technologies used to make the product.			
Final assembly site	France, Europe			
Geographical representativeness	Global			
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27
		Electricity Mix; Low voltage; 2020; Asia Pacific, APAC	Electricity Mix; Low voltage; 2020; Asia Pacific, APAC	Electricity Mix; Low voltage; 2020; Asia Pacific, APAC
		Electricity Mix; Low voltage; 2020; United States, US	Electricity Mix; Low voltage; 2020; United States, US	Electricity Mix; Low voltage; 2020; United States, US

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.se.com/contact

Mandatory Indicators		**PowerLogic PFC Capacitor Bank - VLVAF2P03512AA**						
Impact indicators	**Unit**	**Total (without Module D)**	**[A1 - A3] - Manufacturing**	**[A4] - Distribution**	**[A5] - Installation**	**[B1 - B7] - Use**	**[C1 - C4] - End of life**	**[D] - Benefits and loads**
Contribution to climate change	kg CO2 eq	3.50E+04	2.42E+03	5.29E+02	2.02E+02	3.11E+04	6.97E+02	-1.30E+03
Contribution to climate change-fossil	kg CO2 eq	3.45E+04	2.41E+03	5.29E+02	1.85E+01	3.09E+04	6.91E+02	-1.29E+03
Contribution to climate change-biogenic	kg CO2 eq	4.34E+02	1.29E+01	0*	1.84E+02	2.31E+02	6.29E+00	-1.47E+01
Contribution to climate change-land use and land use change	kg CO2 eq	-1.87E-03	0*	0*	0*	-5.57E-03	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.21E-03	5.82E-04	4.66E-04	4.24E-07	1.62E-04	2.38E-06	-1.95E-04
Contribution to acidification	mol H+ eq	2.13E+02	1.55E+01	2.30E+00	7.23E-02	1.93E+02	2.43E+00	-1.07E+01
Contribution to eutrophication, freshwater	kg P eq	1.36E-01	1.98E-02	6.23E-05	8.59E-05	3.01E-02	8.57E-02	-2.66E-03
Contribution to eutrophication, marine	kg N eq	2.58E+01	2.49E+00	1.06E+00	2.44E-02	2.17E+01	5.08E-01	-7.63E-01
Contribution to eutrophication, terrestrial	mol N eq	3.15E+02	2.74E+01	1.15E+01	2.96E-01	2.70E+02	5.57E+00	-8.79E+00
Contribution to photochemical ozone formation - human health	kg COVNM eq	8.59E+01	8.83E+00	3.76E+00	6.34E-02	7.14E+01	1.79E+00	-3.20E+00
Contribution to resource use, minerals and metals	kg Sb eq	3.57E-01	3.43E-01	0*	0*	1.15E-02	2.70E-03	-3.29E-01
Contribution to resource use, fossils	MJ	6.92E+05	5.58E+04	6.59E+03	1.21E+02	5.89E+05	4.05E+04	-2.69E+04
Contribution to water use	m3 eq	2.79E+03	6.57E+02	2.67E+01	2.36E+01	1.82E+03	2.65E+02	-4.38E+02

Inventory flows Indicators		PowerLogic PFC Capacitor Bank - VLVAF2P03512AA						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to renewable primary energy used as energy	MJ	8.22E+04	1.04E+03	0*	0*	8.11E+04	6.65E+01	-4.36E+02
Contribution to renewable primary energy used as raw material	MJ	2.79E+03	2.79E+03	0*	0*	1.94E+00	0*	-1.33E+01
Contribution to total renewable primary energy	MJ	8.50E+04	3.83E+03	0*	0*	8.11E+04	6.65E+01	-4.49E+02
Contribution to non renewable primary energy used as energy	MJ	6.91E+05	5.44E+04	6.59E+03	1.21E+02	5.89E+05	4.05E+04	-2.69E+04
Contribution to non renewable primary energy used as raw material	MJ	7.48E+03	2.69E+03	2.49E+00	1.42E+00	4.77E+03	2.43E+01	-1.07E+01
Contribution to total non renewable primary energy	MJ	6.92E+05	5.58E+04	6.59E+03	1.21E+02	5.89E+05	4.05E+04	-2.69E+04
Contribution to use of secondary material	kg	8.87E+00	8.68E+00	0*	0*	1.86E-01	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 fresh water	m³	7.47E+01	1.66E+01	6.24E-01	5.65E-01	4.64E+01	1.05E+01	-1.42E+01
Contribution to hazardous waste disposed	kg	1.79E+04	1.77E+04	0*	0*	1.16E+02	1.51E+01	-2.63E+04
Contribution to non hazardous waste disposed	kg	7.30E+03	1.91E+03	0*	1.54E+02	5.18E+03	5.33E+01	-1.31E+03
Contribution to radioactive waste disposed	kg	1.87E+00	1.06E+00	1.05E-01	5.00E-03	6.97E-01	3.20E-03	-7.55E-01
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.58E+02	3.45E+01	0*	1.14E+00	2.43E-01	2.22E+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	1.29E+01	1.06E+01	0*	1.03E-01	1.30E-01	2.11E+00	0.00E+00

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

Contribution to biogenic carbon content of the product	kg of C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg of C	3.41E+01

** The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)*

Mandatory Indicators		PowerLogic PFC Capacitor Bank - VLVAF2P03512AA							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	3.11E+04	0*	0*	0*	2.28E+02	0*	3.09E+04	0*
Contribution to climate change-fossil	kg CO2 eq	3.09E+04	0*	0*	0*	2.27E+02	0*	3.06E+04	0*
Contribution to climate change-biogenic	kg CO2 eq	2.31E+02	0*	0*	0*	4.74E-01	0*	2.31E+02	0*
Contribution to climate change-land use and land use change	kg CO2 eq	-5.57E-03	0*	0*	0*	-5.57E-03	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	1.62E-04	0*	0*	0*	1.22E-05	0*	1.50E-04	0*
Contribution to acidification	mol H+ eq	1.93E+02	0*	0*	0*	1.49E+00	0*	1.91E+02	0*
Contribution to eutrophication, freshwater	kg P eq	3.01E-02	0*	0*	0*	4.78E-04	0*	2.96E-02	0*
Contribution to eutrophication marine	kg N eq	2.17E+01	0*	0*	0*	1.71E-01	0*	2.15E+01	0*
Contribution to eutrophication, terrestrial	mol N eq	2.70E+02	0*	0*	0*	2.09E+00	0*	2.68E+02	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.14E+01	0*	0*	0*	5.40E-01	0*	7.09E+01	0*
Contribution to resource use, minerals and metals	kg Sb eq	1.15E-02	0*	0*	0*	6.57E-03	0*	4.90E-03	0*
Contribution to resource use, fossils	MJ	5.89E+05	0*	0*	0*	4.79E+03	0*	5.85E+05	0*
Contribution to water use	m3 eq	1.82E+03	0*	0*	0*	2.84E-01	0*	1.82E+03	0*

Inventory flows Indicators		PowerLogic PFC Capacitor Bank - VLVAF2P03512AA							
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	8.11E+04	0*	0*	0*	7.29E+02	0*	8.03E+04	0*
Contribution to use of renewable primary energy resources used as raw material	MJ	1.94E+00	0*	0*	0*	1.94E+00	0*	0*	0*
Contribution to total use of renewable primary energy resources	MJ	8.11E+04	0*	0*	0*	7.31E+02	0*	8.03E+04	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw	MJ	5.89E+05	0*	0*	0*	4.78E+03	0*	5.85E+05	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	4.77E+03	0*	0*	0*	4.77E+03	0*	0*	0*
Contribution to total use of non-renewable primary energy resources	MJ	5.89E+05	0*	0*	0*	4.79E+03	0*	5.85E+05	0*
Contribution to use of secondary material	kg	1.86E-01	0*	0*	0*	1.86E-01	0*	0*	0*
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to net use of freshwater	m³	4.64E+01	0*	0*	0*	3.94E+00	0*	4.24E+01	0*
Contribution to hazardous waste disposed	kg	1.16E+02	0*	0*	0*	1.16E+02	0*	0*	0*
Contribution to non hazardous waste disposed	kg	5.18E+03	0*	0*	0*	4.12E+01	0*	5.14E+03	0*
Contribution to radioactive waste disposed	kg	6.97E-01	0*	0*	0*	3.48E-02	0*	6.62E-01	0*
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for recycling	kg	2.43E-01	0*	0*	0*	2.43E-01	0*	0*	0*
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to exported energy	MJ	1.30E-01	0*	0*	0*	1.30E-01	0*	0*	0*

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

Life cycle assessment performed with EIME version v6.2.4, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

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 :	ENVPEP2005002_V3	*Drafting rules*	PCR-4-ed4-EN-2021 09 06
		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Date of issue	02-2025	*Information and reference documents*	www.pep-ecopassport.org
		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)

PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022

The components of the present PEP may not be compared with components from any other program.

Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"

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Published by Schneider Electric

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