

# Product Environmental Profile

## VarPlus Can

### VarPlus Can

Group of 3 Capacitors





## General information

### Representative product

VarPlus Can -BLRCH300A360B40

### Description of the product

VarPlus Can are low voltage cylindrical capacitors specially designed to deliver high performance in harsh conditions to ensure 30% extended life compared to standard capacitors. They can be used in fixed and automatic Power Factor correction systems, in networks with frequently switched loads and harmonic disturbances.

#### • Technical datas:

- High life expectancy up to 130,000 hours.
- Voltage up to 830 V
- High power ratings from 1 to 50 kvar
- Operating temperature up to 55 °C
- High inrush current withstand up to 250 x In
- Harmonic content withstand  $\leq 20\%$
- Mounting Indoor, Upright as well as Horizontal
- Compliant with standards IEC 60831-1 and -2.

VarPlus Can capacitors must be selected depending on the working conditions expected during their lifetime. Since the harmonics are caused by non-linear loads, an indicator for the magnitude of harmonics is the ratio NLL of the total power of non-linear loads to the power supply transformer rating.

### Functional unit

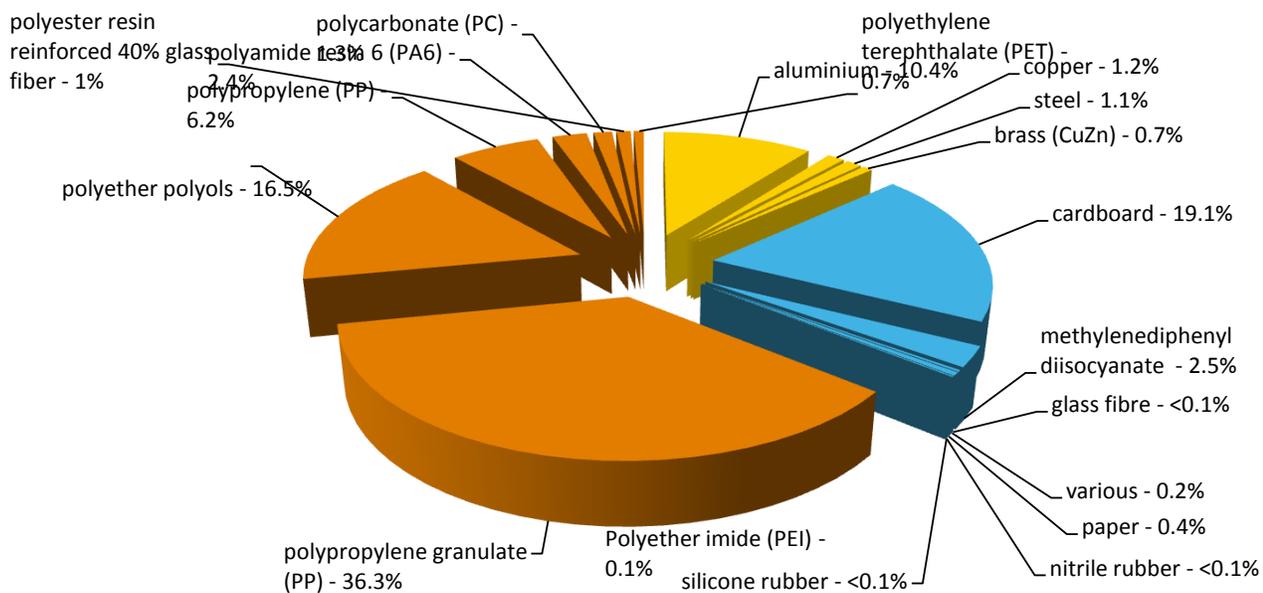
To supply the rated reactive energy at rated supply voltage both in 50 & 60Hz to improve the power factor in the networks according to the IEC 60831- Part 1 &2



## Constituent materials

### Reference product mass

3697.26 g including the product, its packaging and additional elements and accessories



## 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

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this 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 VarPlus Can presents the following relevant environmental aspects

<b>Manufacturing</b>	Manufactured at a Schneider Electric production site ISO14001 certified
<b>Distribution</b>	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 714.7 g, consisting of 99% cardboard 1% PE film Packaging recycled materials is 100% of total packaging mass. Product distribution optimised by setting up local distribution centres
<b>Installation</b>	VarPlus Can capacitor need to follow the instruction as per the installation guide available along with every product. This document can be downloaded from internet also for the customers. It is very important to keep the environmental condition and ventilation needs of this product as per what is mentioned in the instruction manual
<b>Use</b>	The product does not require special maintenance operations.
<b>End of life</b>	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials  No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process.  Recyclability potential: <b>62%</b> 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).



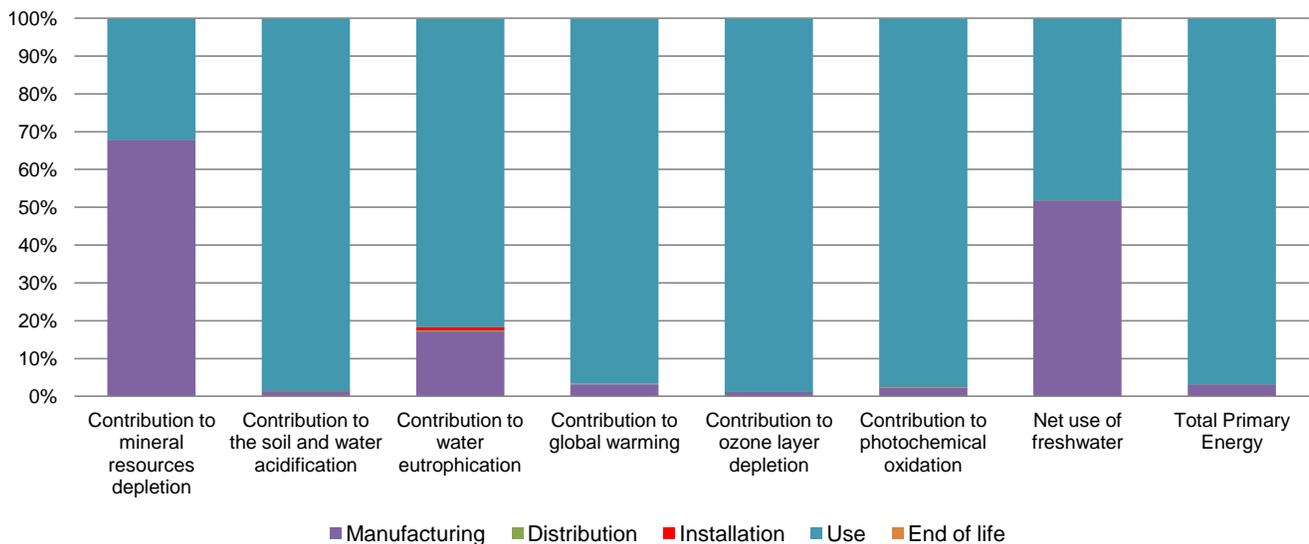
## Environmental impacts

<b>Reference life time</b>	10 years			
<b>Product category</b>	Passive products - continuous operation			
<b>Installation elements</b>	No special components needed			
<b>Use scenario</b>	Product dissipation is 15 W full load, loading rate is 30% and service uptime percentage is 100% The product is in active mode for ~80% in fixed compensation applications and 50% in automatic PF control applications with a power use of <0.5W/KVAr			
<b>Geographical representativeness</b>	South Asia			
<b>Technological representativeness</b>	<p>VarPlus Can are low voltage cylindrical capacitors specially designed to deliver high performance in harsh conditions to ensure 30% extended life compared to standard capacitors. They can be used in fixed and automatic Power Factor correction systems, in networks with frequently switched loads and harmonic disturbances.</p> <ul style="list-style-type: none"> <li>• Technical datas: <ul style="list-style-type: none"> <li>- High life expectancy up to 130,000 hours.</li> <li>- Voltage up to 830 V</li> <li>- High power ratings from 1 to 50 kvar</li> <li>- Operating temperature up to 55 °C</li> <li>- High inrush current withstand up to 250 x In</li> <li>- Harmonic content withstand <math>\leq 20\%</math></li> <li>- Mounting Indoor, Upright as well as Horizontal</li> <li>- Compliant with standards IEC 60831-1 and -2.</li> </ul> </li> </ul> <p>VarPlus Can capacitors must be selected depending on the working conditions expected during their lifetime. Since the harmonics are caused by non-linear loads, an indicator for the magnitude of harmonics is the ratio NLL of the total power of non-linear loads to the power supply transformer rating.</p>			
<b>Energy model used</b>	<b>Manufacturing</b>	<b>Installation</b>	<b>Use</b>	<b>End of life</b>
	Energy model used: India	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		VarPlus Can - BLRCH300A360B40					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	8,78E-05	5,95E-05	1,91E-08	0*	2,83E-05	8,95E-09
Contribution to the soil and water acidification	kg SO <sub>2</sub> eq	4,76E+00	6,30E-02	2,18E-03	0*	4,69E+00	8,99E-04
Contribution to water eutrophication	kg PO <sub>4</sub> <sup>3-</sup> eq	2,16E-01	3,70E-02	5,02E-04	1,90E-03	1,76E-01	2,51E-04
Contribution to global warming	kg CO <sub>2</sub> eq	6,43E+02	2,04E+01	4,77E-01	9,82E-01	6,21E+02	4,76E-01
Contribution to ozone layer depletion	kg CFC11 eq	1,53E-04	1,78E-06	0*	0*	1,51E-04	2,01E-08
Contribution to photochemical oxidation	kg C <sub>2</sub> H <sub>4</sub> eq	2,28E-01	5,18E-03	1,55E-04	2,35E-04	2,22E-01	9,39E-05

Resources use		VarPlus Can - BLRCH300A360B40					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	3,36E+00	1,74E+00	0*	0*	1,62E+00	4,10E-04
Total Primary Energy	MJ	1,11E+04	3,41E+02	6,39E+00	0*	1,07E+04	4,26E+00



Optional indicators		VarPlus Can - BLRCH300A360B40					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	6,75E+03	3,45E+02	6,70E+00	0*	6,39E+03	4,00E+00
Contribution to air pollution	m <sup>3</sup>	2,82E+04	1,49E+03	2,03E+01	3,51E+00	2,66E+04	3,16E+01
Contribution to water pollution	m <sup>3</sup>	2,84E+04	2,17E+03	7,84E+01	5,26E+01	2,60E+04	3,81E+01

Resources use		VarPlus Can - BLRCH300A360B40					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	3,47E+01	3,47E+01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	9,14E+02	1,45E+01	0*	0*	9,00E+02	0*
Total use of non-renewable primary energy resources	MJ	1,01E+04	3,27E+02	6,38E+00	0*	9,81E+03	4,25E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	9,14E+02	1,43E+01	0*	0*	9,00E+02	0*
Use of renewable primary energy resources used as raw material	MJ	2,46E-01	2,46E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1,00E+04	2,06E+02	6,38E+00	0*	9,81E+03	4,25E+00
Use of non renewable primary energy resources used as raw material	MJ	1,20E+02	1,20E+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	9,77E+00	5,64E+00	0*	0*	0*	4,13E+00
Non hazardous waste disposed	kg	2,33E+03	7,54E+00	0*	7,16E-01	2,32E+03	0*
Radioactive waste disposed	kg	1,90E+00	4,86E-03	0*	0*	1,89E+00	0*
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	2,13E+00	2,72E-01	0*	0*	0*	1,86E+00
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	7,33E-02	8,82E-03	0*	0*	0*	6,45E-02
Exported Energy	MJ	5,16E-03	0*	0*	5,16E-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 v5.5, database version 2015-04.

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 N°	ENVPEP1612005_V1	Drafting rules	PCR-ed3-EN-2015 04 02
Date of issue	05/2016		
Validity period	5 years	Information and reference	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	X	External	
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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