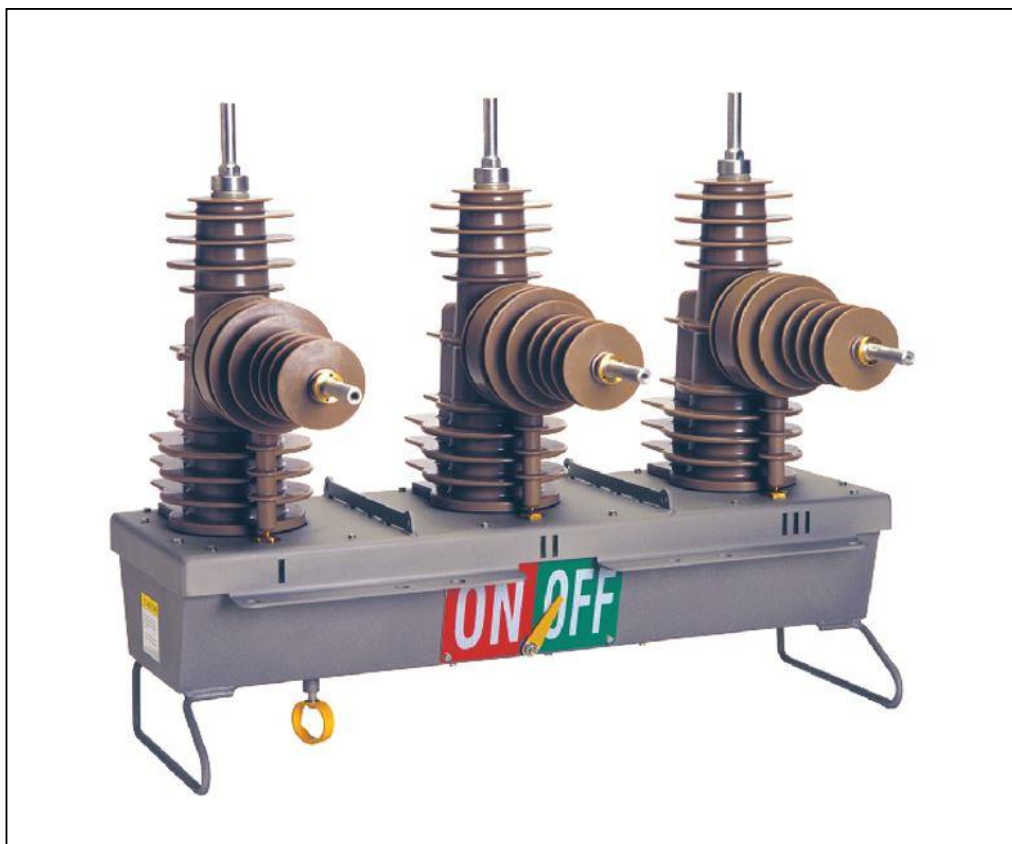


# Product Environmental Profile

## U-Series ACR 15/27kV





## General information

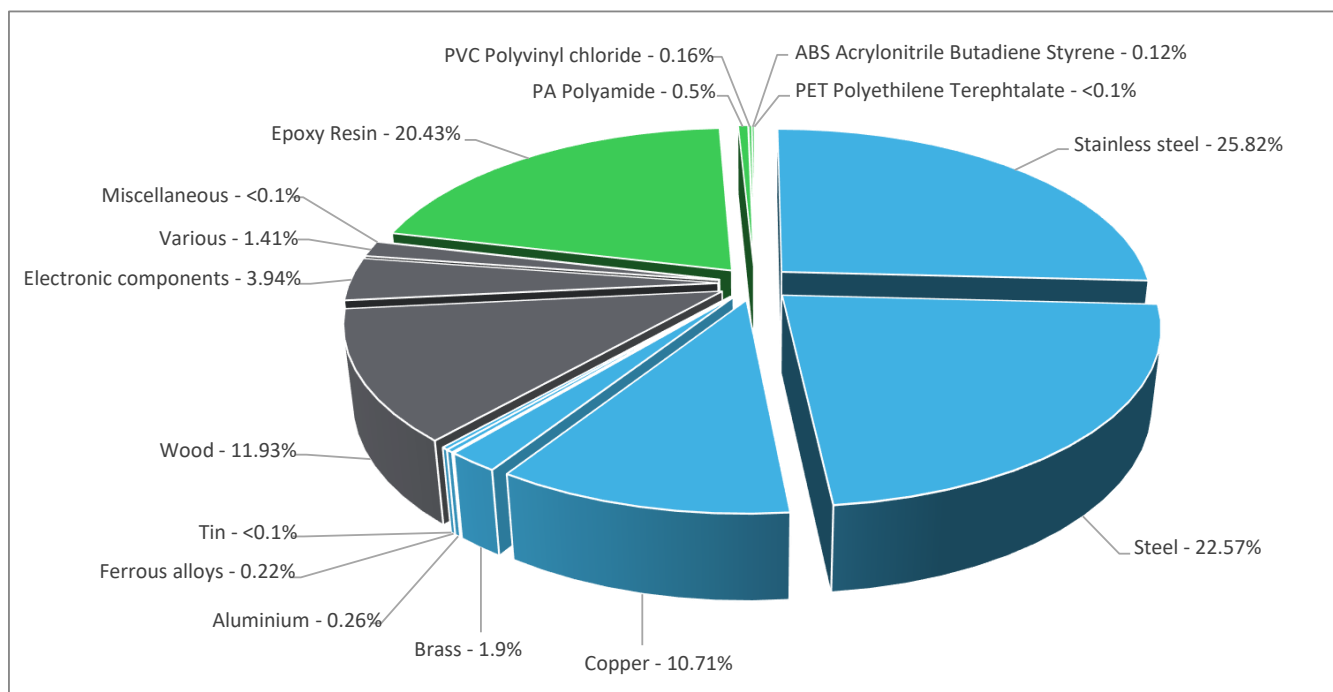
<b>Representative product</b>	U-Series ACR 15/27kV - 20112000
<b>Description of the product</b>	The U-Series is primarily an intelligent circuit breaker which has the ability to trip an electrical circuit under fault load after first sensing a current or voltage fault, and to reclose back onto the fault up to 4 times without human intervention in compliance with IEC 62271-111
<b>Functional unit</b>	The ACR (Automatic Circuit Recloser) is primarily an intelligent circuit breaker which has the ability to trip an electrical circuit under fault load after first sensing a current or voltage fault, and to reclose back onto the fault up to 4 times without human intervention for 10* years in compliance with IEC 62271-111

\*The product can last for 25 years. But, As per PSR requirement we used 10 years of RLT in PEP.



## Constituent materials

<b>Reference product mass</b>	147000 g including the product, its packaging and additional elements and accessories
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Plastics	21.24%
Metals	61.48%
Others	17.28%



## Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) 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), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl 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 U-Series ACR 15/27kV 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 28900.1 g, consisting of Wood (62.3%) and Steel (37.7%)
<b>Installation</b>	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).
<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  This product contains PCBA (596.16g) 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  <a href="http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page">http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page</a>  Recyclability potential: <b>63%</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).

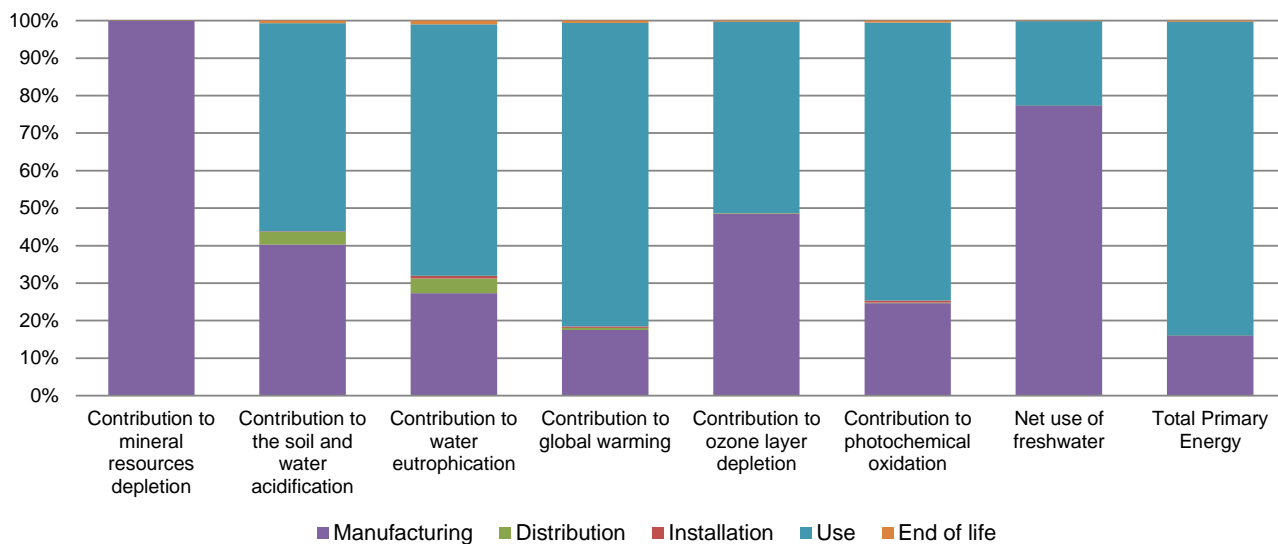
## Environmental impacts

<b>Reference life time</b>	10* years			
<b>Product category</b>	Other equipments - Active product			
<b>Installation elements</b>	No special installation components need during installation phase, but transport of packaging to disposal, and disposal of packaging accounted for during installation.			
<b>Use scenario</b>	The product is in active mode 100% of the time with a power use of 75W, for 10* years			
<b>Geographical representativeness</b>	Global (South America, Australia and rest of the world)			
<b>Technological representativeness</b>	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.			
<b>Energy model used</b>	<b>Manufacturing</b>	<b>Installation</b>	<b>Use</b>	<b>End of life</b>
	Manufacturing Plant: Curitiba, Brazil	_Electricity mix; AC; consumption mix, at consumer; 110-220V; BR, at power plant; AG & at consumer; 240V; AU	_Electricity mix; AC; consumption mix, at consumer; 110-220V; BR, at power plant; AG & at consumer; 240V; AU	_Electricity mix; AC; consumption mix, at consumer; 110-220V; BR, at power plant; AG & at consumer; 240V; AU

\*The product can last for 25 years. But, As per PSR requirement we used 10 years of RLT in PEP.

Compulsory indicators (For 10 years)		U-Series ACR 15/27kV - 20112000					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	3.30E-02	3.30E-02	0*	0*	2.74E-05	0*
Contribution to the soil and water acidification	kg SO <sub>2</sub> eq	2.26E+00	9.09E-01	7.50E-02	5.04E-03	1.25E+00	1.58E-02
Contribution to water eutrophication	kg PO <sub>4</sub> <sup>3-</sup> eq	4.93E-01	1.35E-01	1.95E-02	3.27E-03	3.31E-01	4.79E-03
Contribution to global warming	kg CO <sub>2</sub> eq	1.77E+03	3.11E+02	8.68E+00	7.91E+00	1.43E+03	1.06E+01
Contribution to ozone layer depletion	kg CFC11 eq	1.25E-04	6.08E-05	1.79E-07	1.73E-08	6.38E-05	4.09E-07
Contribution to photochemical oxidation	kg C <sub>2</sub> H <sub>4</sub> eq	3.21E-01	7.91E-02	5.95E-04	1.84E-03	2.38E-01	1.66E-03

Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	6.57E+00	5.08E+00	0*	2.10E-03	1.48E+00	8.85E-03
Total Primary Energy	MJ	2.70E+04	4.33E+03	3.25E+00	1.15E+01	2.26E+04	8.02E+01




Optional indicators		U-Series ACR 15/27kV - 20112000					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1.70E+04	2.47E+03	3.18E+00	1.07E+01	1.45E+04	6.20E+01
Contribution to air pollution	m <sup>3</sup>	1.88E+05	7.71E+04	9.90E+02	1.93E+02	1.09E+05	5.66E+02
Contribution to water pollution	m <sup>3</sup>	2.01E+05	1.42E+05	3.75E+01	1.20E+02	5.65E+04	2.96E+03
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	3.82E+00	3.82E+00	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	6.75E+03	2.17E+02	0*	0*	6.53E+03	0*
Total use of non-renewable primary energy resources	MJ	2.03E+04	4.11E+03	3.25E+00	1.13E+01	1.61E+04	8.02E+01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	6.60E+03	6.57E+01	0*	0*	6.53E+03	0*
Use of renewable primary energy resources used as raw material	MJ	1.51E+02	1.51E+02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.98E+04	3.63E+03	3.25E+00	1.13E+01	1.61E+04	8.02E+01
Use of non renewable primary energy resources used as raw material	MJ	4.77E+02	4.77E+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	2.58E+03	2.47E+03	0*	0*	4.39E+01	6.92E+01
Non hazardous waste disposed	kg	3.09E+02	1.29E+02	0*	8.60E+00	1.71E+02	2.42E-01
Radioactive waste disposed	kg	1.08E-01	7.53E-02	5.20E-05	2.16E-04	3.24E-02	3.92E-04
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	3.80E+01	3.51E+00	0*	3.61E+00	0*	3.09E+01
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.36E+00	0*	0*	0*	0*	1.36E+00
Exported Energy	MJ	4.94E+00	4.64E-01	0*	4.48E+00	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 Manufacturing phase is impacting on Indicator of Abiotic depletion (elements, ultimate ultimate reserves) (ADPe for EN15804) & Net use of freshwater. The Manufacturing phase & Use phase are impacting equally on Indicator of Acidification potential of soil and water (total average for Europe) & Ozone layer depletion ODP steady state (ODP for EN15804). And the Use phase impacting on the rest of the Indicators Eutrophication (fate not incl.) (EP for EN15804), Global warming (GWP100) (GWP for EN15804), Photochemical oxidation (high NOx) (POCP for EN15804) & Total Primary Energy.

*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.*

<i>Registration number :</i>	SCHN-00645-V01.01-EN	<i>Drafting rules</i>	PCR-ed3-EN-2015 04 02
<i>Verifier accreditation N°</i>	VH39	<i>Supplemented by</i>	PSR-0005-ed2-EN-2016 03 29
<i>Date of issue</i>	02/2021	<i>Information and reference documents</i>	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
		<i>Validity period</i>	5 years
<i>Independent verification of the declaration and data, in compliance with ISO 14025 : 2010</i>			
Internal	External X		
<i>The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)</i>			
<i>PEP are compliant with XP C08-100-1 :2016</i>			
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »</i>			
			

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