

Product Environmental Profile

Minera MP Oil immersed Medium Power Transformer

Minera MP





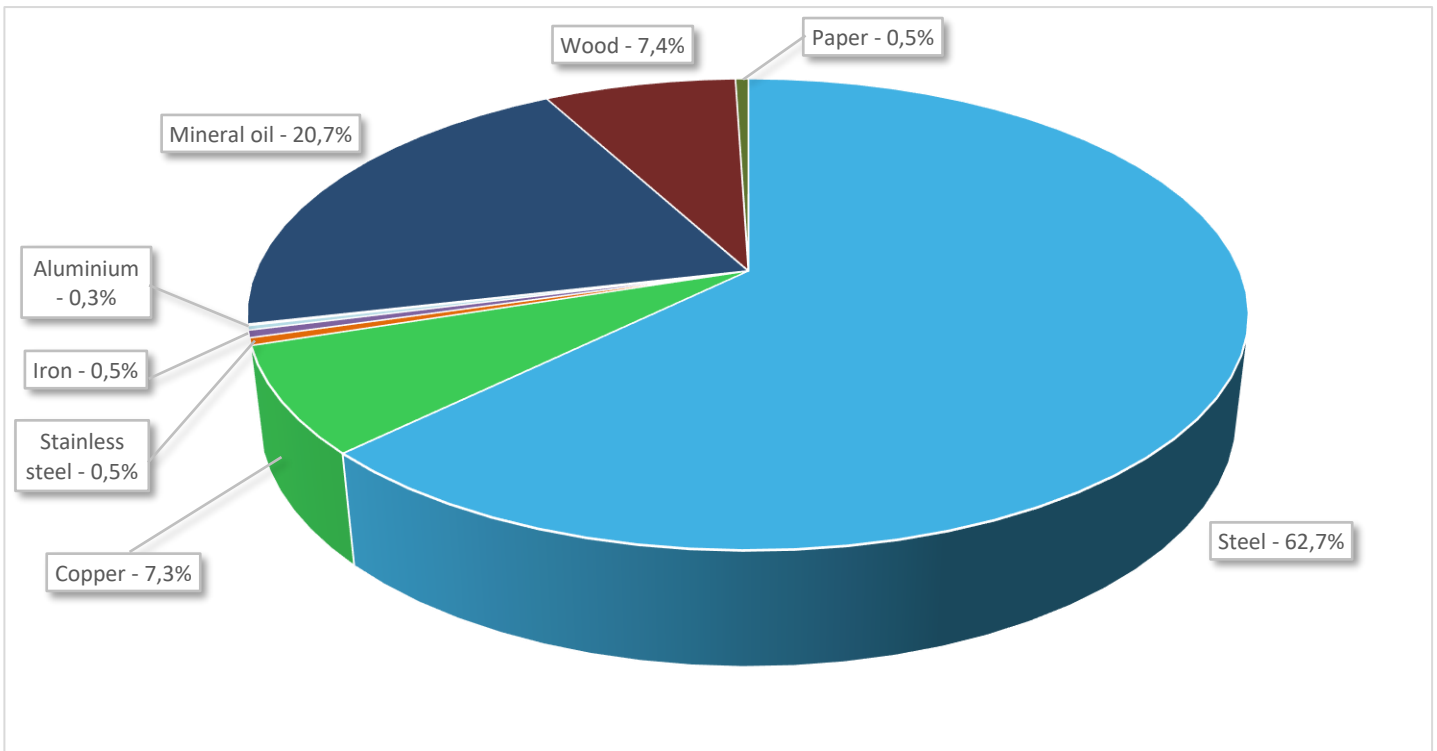
General information

Representative product	Minera MP Oil immersed Medium Power Transformer - Minera MP
Description of the product	The main purpose of the Minera MP transformer is to supply reliable and safe voltage amplitude transformation to distribution network from MV to MV or from MV to LV (or vice versa for step up operation)
Description of the range	<p>This range consists of mineral oil filled medium power transformers from 5 MVA up to and including 80 MVA power rating and 154 kV maximum operating voltage</p> <p>The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.</p>
Functional unit	To operate the transformer during its expected life span of 30 years at 100 % service uptime



Constituent materials

Reference product mass 33000000 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

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 Minera MP Oil immersed Medium Power Transformer presents the following relevant environmental aspects

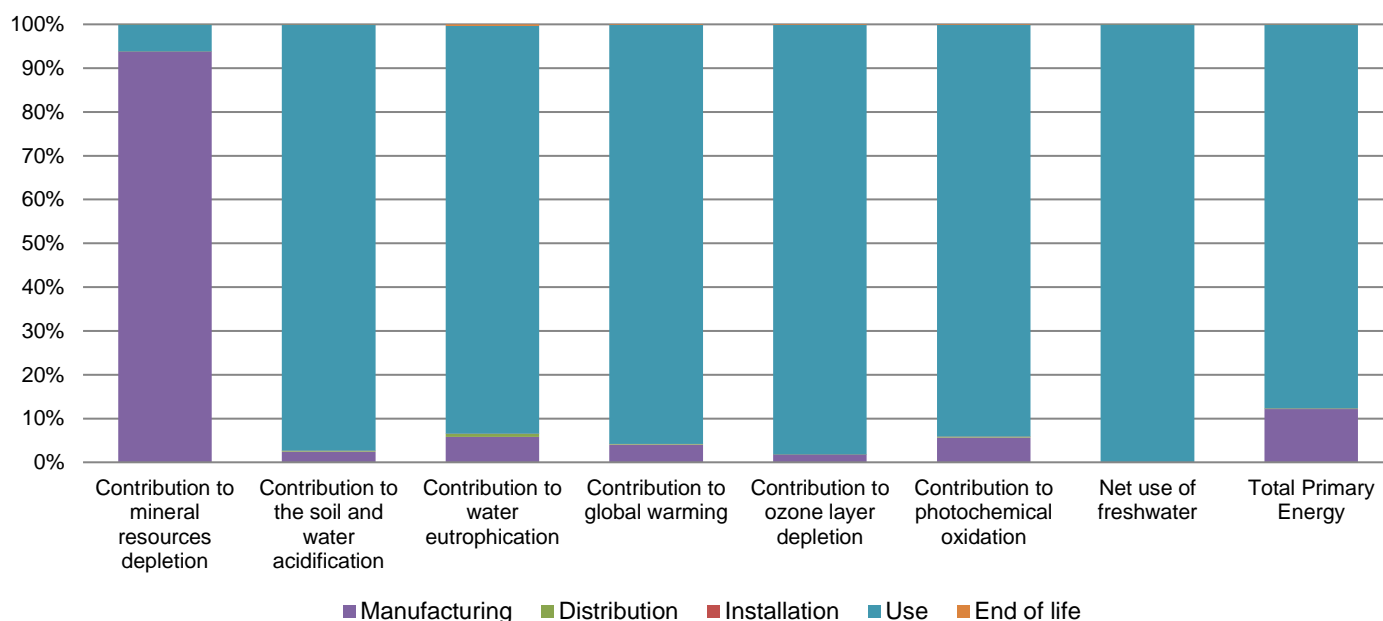
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 2000000 g, consisting of wood (100%) Packaging recycled materials is 100% of total packaging mass.
Installation	It should be noted that installation of Minera transformers have negligible global impact.
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 Mineral oil, paper and cardboard insulation 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: 72% 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	30 years			
Installation elements	No special components needed			
Use scenario	The dissipated power depends on the product size as well as the conditions under which the product is implemented and used. This product range is included in the category 1 (Energy Passing Product). Use scenario is power dissipation is 110,5 kW at 24 % load (sum of no load and load losses), average loading rate during life time is 24 % and service uptime percentage is 100 %.			
Geographical representativeness	Europe			
Technological representativeness	The main purpose of the Minera MP transformer is to supply reliable and safe voltage amplitude transformation to distribution network from MV to MV or from MV to LV (or vice versa for step up operation)			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Turkey	Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV; EU-27	Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV; EU-27	Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV;

Compulsory indicators		Minera MP Oil immersed Medium Power Transformer - Minera MP					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	3,11E+00	2,92E+00	0*	0*	1,93E-01	0*
Contribution to the soil and water acidification	kg SO ₂ eq	9,39E+03	2,32E+02	1,94E+01	0*	9,13E+03	8,67E+00
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	6,00E+02	3,47E+01	4,48E+00	1,03E-01	5,59E+02	2,04E+00
Contribution to global warming	kg CO ₂ eq	2,33E+06	9,38E+04	4,26E+03	0*	2,23E+06	2,80E+03
Contribution to ozone layer depletion	kg CFC11 eq	1,45E-01	2,56E-03	0*	0*	1,42E-01	1,91E-04
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	5,36E+02	3,02E+01	1,39E+00	0*	5,04E+02	9,31E-01
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m ³	8,05E+06	0*	0*	0*	8,05E+06	0*
Total Primary Energy	MJ	5,06E+07	6,16E+06	6,02E+04	0*	4,43E+07	4,35E+04



Optional indicators		Minera MP Oil immersed Medium Power Transformer - Minera MP					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2,63E+07	9,57E+05	5,98E+04	0*	2,53E+07	3,49E+04
Contribution to air pollution	m ³	1,16E+08	2,07E+07	1,81E+05	0*	9,52E+07	3,08E+05
Contribution to water pollution	m ³	9,69E+07	3,78E+06	7,00E+05	1,64E+04	9,20E+07	3,29E+05
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	8,57E+03	8,57E+03	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	5,73E+06	6,65E+04	0*	0*	5,67E+06	0*
Total use of non-renewable primary energy resources	MJ	4,49E+07	6,10E+06	6,01E+04	0*	3,87E+07	4,35E+04
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5,69E+06	1,95E+04	0*	0*	5,67E+06	0*
Use of renewable primary energy resources used as raw material	MJ	4,70E+04	4,70E+04	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4,46E+07	5,79E+06	6,01E+04	0*	3,87E+07	4,35E+04
Use of non renewable primary energy resources used as raw material	MJ	3,11E+05	3,11E+05	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	3,05E+05	2,66E+05	0*	0*	1,17E+03	3,82E+04
Non hazardous waste disposed	kg	8,31E+06	5,61E+03	0*	0*	8,30E+06	0*
Radioactive waste disposed	kg	5,50E+03	4,28E+00	0*	0*	5,50E+03	0*
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	2,61E+04	2,45E+03	0*	2,00E+03	0*	2,16E+04
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1,14E+00	0*	0*	0*	0*	1,14E+00
Exported Energy	MJ	0,00E+00	0*	0*	0*	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).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

Depending on the impact analysis, the environmental indicators (without RMD) of other products in this family may be proportional extrapolated by energy consumption values. For RMD, impact may be proportional extrapolated by mass of the product.

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	ENVPEP1411018_V2-EN	Drafting rules	PCR-ed3-EN-2015 04 02
Date of issue	09/2020		
Validity period	5 years	Information and reference documents	www.pep-ecopassport.org
<i>Independent verification of the declaration and data</i>			
Internal	X	Exterr	
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »</i>			

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