

Product Environmental Profile

DOE 2016 ENERGY EFFICIENT EX TRANSFORMERS
15kVA-750kVA (Aluminum windings)





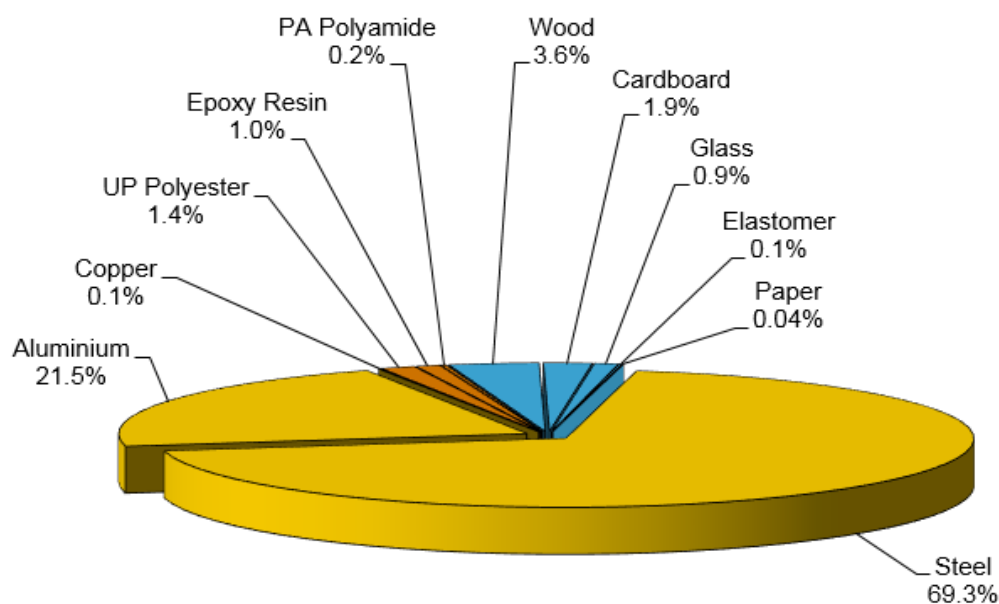
General information

Representative product	DOE 2016 ENERGY EFFICIENT EX TRANSFORMERS - EX75T3H
Description of the product	The EX75T3H is an Energy Efficient Transformer that provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines (75kVA) to the level used by the end customer while meeting the 2016 U.S. Department of Energy (DOE) energy efficient requirements.
Functional unit	To step down a distribution line voltage of 75kVA to voltage levels used by the end customer at the energy efficiency requirements defined by the DOE for 20 years.



Constituent materials

Reference product mass	306174.8 g including the product, its packaging and additional elements and accessories
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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

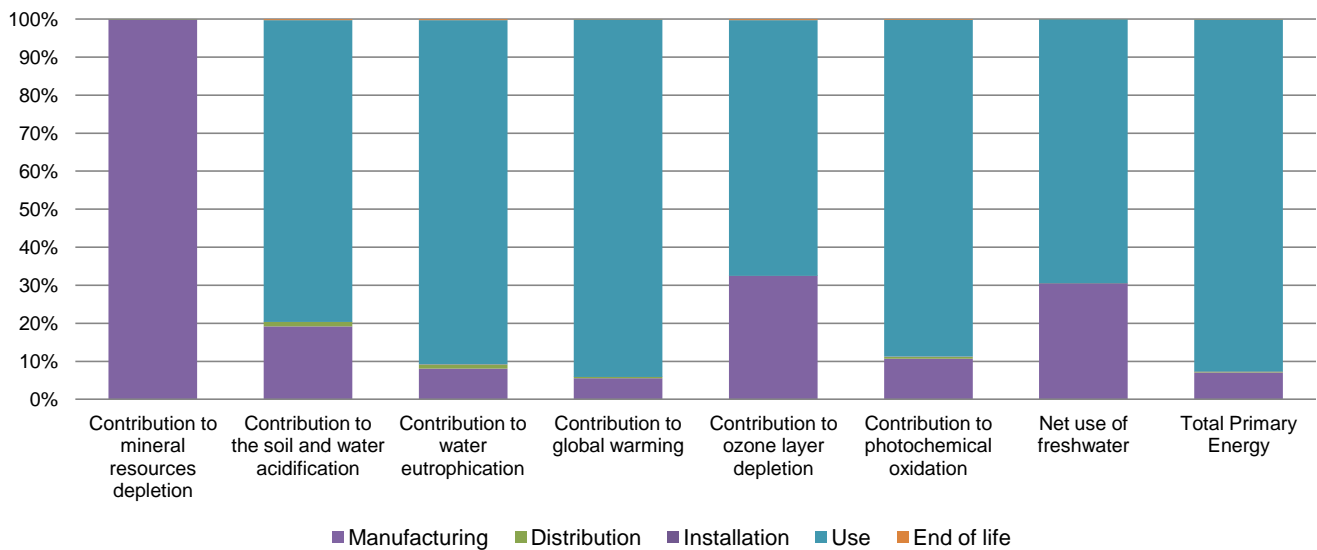
The DOE 2016 ENERGY EFFICIENT EX TRANSFORMERS presents the following relevant environmental aspects

Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging has been optimized.
	Packaging weight is 16758.9 g, consisting of wood (65%) and cardboard (35%) Product distribution optimized by setting up local distribution centres
Installation	For recommended installation instructions and maintenance operations refer to instruction bulletin 43006-850-01, available on the Schneider Electric website. The only installation operation which would have an environmental impact would be the mounting bracket and screws.
Use	
End of life	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: 91% 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	Passive products - continuous operation			
Installation elements	No special components needed			
Use scenario	Product dissipated power is 350W at 33% load and 75°C which is the reference point specified in the US Department of Energy's (DOE) 10CFR431 regulation for the Low Voltage Distribution Transformer product range.			
	For the Use phase scenario, the product is at an Occupied building load level 33% of the time with a power use of 350W and at an Unoccupied building load level 67% of the time with a power use of 133W, for 20 years.			
Geographical representativeness	US			
Technological representativeness	The EX75T3H is an Energy Efficient Transformer that provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines (75kVA) to the level used by the end customer while meeting the 2016 U.S. Department of Energy (DOE) energy efficient requirements.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: US	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		DOE 2016 ENERGY EFFICIENT EX TRANSFORMERS - EX75T3H						
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	
Contribution to mineral resources depletion	kg Sb eq	2,96E-01	2,96E-01	0*	0*	2,44E-04	0*	
Contribution to the soil and water acidification	kg SO ₂ eq	2,99E+01	5,73E+00	3,52E-01	4,91E-03	2,38E+01	8,31E-02	
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	6,98E+00	5,61E-01	8,08E-02	1,18E-03	6,32E+00	1,97E-02	
Contribution to global warming	kg CO ₂ eq	2,64E+04	1,47E+03	7,80E+01	0*	2,48E+04	2,76E+01	
Contribution to ozone layer depletion	kg CFC11 eq	6,70E-04	2,17E-04	1,58E-07	1,14E-07	4,50E-04	1,73E-06	
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	4,30E+00	4,57E-01	2,50E-02	5,24E-04	3,81E+00	8,98E-03	
Resources use		Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	6,32E+01	1,93E+01	6,98E-03	0*	4,39E+01	3,31E-02	
Total Primary Energy	MJ	4,59E+05	3,23E+04	1,10E+03	0*	4,25E+05	4,64E+02	



Optional indicators		DOE 2016 ENERGY EFFICIENT EX TRANSFORMERS - EX75T3H					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	4,12E+05	1,76E+04	1,10E+03	0*	3,93E+05	3,81E+02
Contribution to air pollution	m ³	2,57E+06	4,49E+05	3,22E+03	0*	2,11E+06	2,96E+03
Contribution to water pollution	m ³	1,31E+06	6,62E+04	1,28E+04	1,86E+02	1,22E+06	3,17E+03
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	4,24E+01	4,24E+01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	2,09E+04	8,47E+02	0*	0*	2,01E+04	0*
Total use of non-renewable primary energy resources	MJ	4,38E+05	3,14E+04	1,10E+03	0*	4,05E+05	4,63E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2,07E+04	5,89E+02	0*	0*	2,01E+04	0*
Use of renewable primary energy resources used as raw material	MJ	2,57E+02	2,57E+02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4,38E+05	3,13E+04	1,10E+03	0*	4,05E+05	4,63E+02
Use of non renewable primary energy resources used as raw material	MJ	1,74E+02	1,74E+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	2,45E+04	2,35E+04	0*	2,46E+01	6,64E+02	3,15E+02
Non hazardous waste disposed	kg	5,62E+03	1,82E+03	2,77E+00	0*	3,80E+03	1,29E+00
Radioactive waste disposed	kg	1,54E+00	1,15E+00	1,97E-03	0*	3,91E-01	1,98E-03
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	3,12E+02	3,96E+01	0*	8,96E+00	0*	2,63E+02
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2,81E-01	3,57E-02	0*	0*	0*	2,46E-01
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 v5.5, 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°	SCHN-00062-V01.01-EN	Drafting rules	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH08	Information and reference documents	www.pep-ecopassport.org
Date of issue	08/2016	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External	X	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)			
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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<http://www2.schneider-electric.com/sites/corporate/en/support/operations/local-operations/local-operations.page>

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