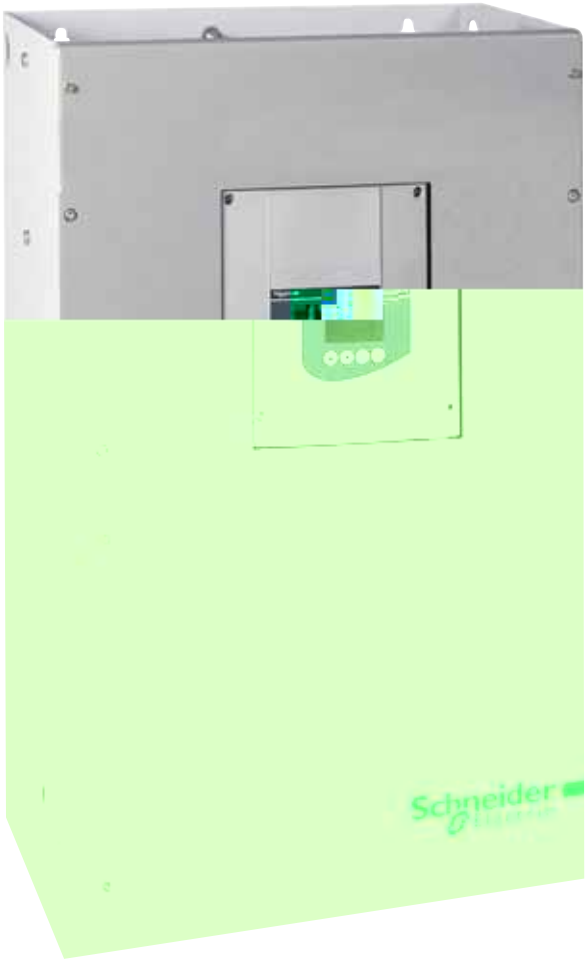
Product Environmental Profile

Altistart 48 410 to 1200 Amps Standard applications



PEP ecoPASSPORT®

Schneider Electric

Product Environmental Profile - PEP

Product overview

The main purpose of the Altistart 48 product range is primarily to intend for the soft starting and breaking of the rotational speed of an asynchronous electric motor.

This range consists of products with ratings from 410 to 1200 Amps in standard applications.

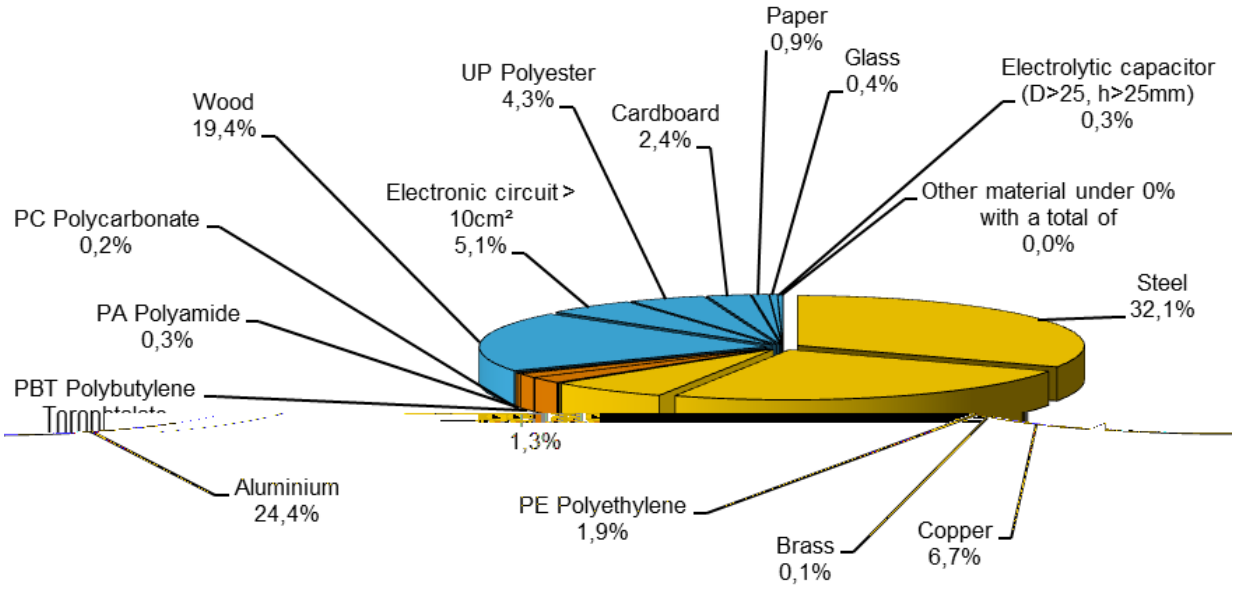
The representative product used for the analysis is ATS48C41Q.

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.

The environmental analysis was performed in conformity with ISO 14040.

Constituent materials

The mass of the product range is from 57 Kg and 115 Kg including packaging. It is 57 Kg for the ATS48C41Q.
The constituent materials are distributed as follows:



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2002/95/EC of 27 January 2003) 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

Manufacturing

The ATS48 410 to 1200 Amps product range is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.
The ATS48C41Q packaging weight is 14 Kg. It consists of 11 Kg of wood, 1.3 Kg of cardboard, 0.5 Kg of paper, 0.9 Kg of PEHD foam, 0.1 Kg of PELD film and 0,2 Kg of dessicant bag.

The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

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Use

The products of the ATS48 410 to 1200 Amps product range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use and do not require special maintenance operation.

The electrical power consumption depends on the conditions under which the product is implemented and used. The electrical power consumed by the ATS48 410 to 1200 Amps product range is between 1339 W and 3497 W. It is 1339 W for the ATS48C41Q and accounts for 1.2 % of the total power flowing through the product.

End of life

At end of life, the products in the ATS48 410 to 1200 Amps product range have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range contains Printed Circuit Board Assemblies including electrolytic capacitors that should be separated from the stream of waste so as to optimize end-of-life treatment by special treatments. The location of these components and other recommendations are given in the End of Life Instruction document which is available for this product range.

The recyclability potential of the products has been evaluated using the "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).
According to this method, the potential recyclability ratio is: 61 %.
As described in the recyclability calculation method this ratio includes only metals and plastics which have proven industrial recycling processes.

Environmental impacts

Life cycle assessment has been performed on the following life cycle phases: Materials and Manufacturing (M), Distribution (D), Installation (I) Use (U), and End of life (E).
Modeling hypothesis and method:

- the calculation was performed on the ATS48C41Q
- product packaging: is included
- installation components: no special components included.
- scenario for the Use phase: this product range is included in the category “*Energy consuming product*” : (assumed service life is 10 years)

The scenario taken into account in this analysis for the Using phase (U) is as follows:

- active phase:consumed power: 1339 W for 45 % uptime
- idle phase:consumed power: 20 W for 45 % uptime,
- sleep phase:consumed power: 0 W for 10 % uptime,

The electrical power model used for calculation is European model.
End of life impacts are based on a worst case transport distance to the recycling plant (1000km)

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Presentation of the product environmental impacts

Environmental indicators	Unit	For ATS48C41Q					
		S = M + D + I + U + E	M	D	I	U	E
Raw Material Depletion	Y-1	2,62E-12	1,92E-12	3,71E-16	0,00E+00	6,96E-13	1,17E-16
Energy Depletion	MJ	6,22E+05	8,01E+03	2,72E+02	0,00E+00	6,13E+05	8,55E+01
Water depletion	dm^3	9,15E+04	2,81E+03	2,58E+01	0,00E+00	8,87E+04	8,11E+00
Global Warming	$g \approx CO_2$	3,14E+07	4,32E+05	2,15E+04	0,00E+00	3,10E+07	6,77E+03
Ozone Depletion	g≈CFC-11	1,77E+00	7,00E-02	1,52E-02	0,00E+00	1,68E+00	4,79E-03
Air Toxicity	m^3	5,28E+09	1,37E+08	4,06E+06	0,00E+00	5,14E+09	1,28E+06
Photochemical Ozone Creation	$g \approx C_2H_4$	1,07E+04	1,59E+02	1,84E+01	0,00E+00	1,05E+04	5,78E+00
Air acidification	$g \approx H^+$	4,27E+03	8,92E+01	2,74E+00	0,00E+00	4,18E+03	8,63E-01
Water Toxicity	dm^3	8,93E+06	9,79E+04	2,69E+03	0,00E+00	8,83E+06	8,46E+02
Water Eutrophication	$g \approx PO_4$	8,29E+01	9,73E+00	3,58E-01	0,00E+00	7,27E+01	1,13E-01
Hazardous waste production	kg	5,41E+02	2,74E+01	8,01E-03	0,00E+00	5,14E+02	2,52E-03

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 4.0, and with its database version 11.
The Use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

For our electrical/electronic products, the first proposition for significant parameter is energy consumption values. 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.

System approach

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.
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.

Glossary

Raw Material Depletion (RMD)	
Energy Depletion (ED)	
Water Depletion (WD)	
Global Warming (GW)	
Ozone Depletion (OD)	
Air Toxicity (AT)	
Photochemical Ozone Creation (POC)	
Air Acidification (AA)	
Water Eutrophication (WE)	
Water Toxicity (WT)	
Hazardous Waste Production (HWP)	

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