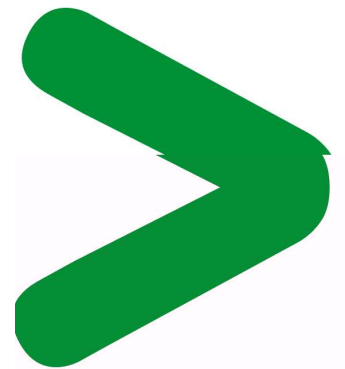


Product Environmental Profile

Memory key



Product Environmental Profile - PEP

Product overview

The main purpose of the Memory key for yearly time switches - allows to store and transfer programme created on time switch or programming package.

This range consists of: Memory keys.

The representative product used for the analysis is Memory key for ITA, Ref. CCT15955.

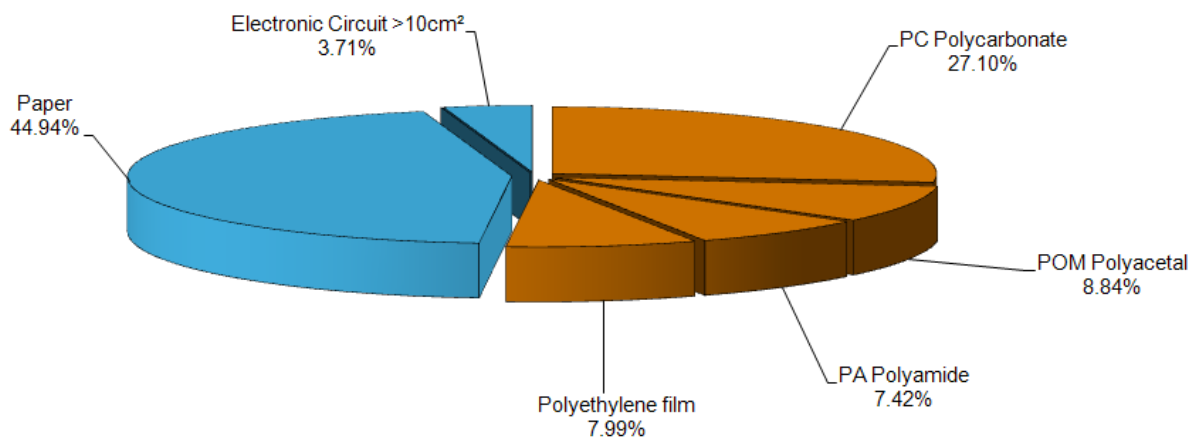
The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.

The environmental analysis was performed in conformity with ISO 14040.

Constituent materials

The mass of the product range is from 1 g and 10 g including packaging. It is 7 g for the Memory key for ITA, Ref. CCT15955.

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

Memory key for ITA is manufactured at a production site which complies with the regulations governing industrial sites.

Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.

The Memory key for ITA packaging weight is 3.71 g. It consists of Paper (Virgin) 3.15 g and Polyethylene film 0.56 g.

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

Use

The products of the Acti 9 range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use.

The electrical power consumption depends on the conditions under which the product is implemented and used. The electrical power consumed by the Memory key range is between 0.01 W and 0.1 W. It is 0.066 W in active mode for the referenced Memory key for ITA, Ref. CCT15955.

Product Environmental Profile - PEP

End of life

At end of life, the products in the Memory key have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range contains PCBA 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: 16.06 %.

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 Memory key for ITA, Ref. CCT15955.
 - 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 and use scenario is: 0.066 W and service uptime percentage is 100%.
 - the geographical representative area for the assessment is European and 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).

Presentation of the product environmental impacts

Environmental indicators	Unit	For Memory key for ITA, Ref. CCT15955					
		S = M + D + I + U + E	M	D	I	U	E
Raw Material Depletion	Y-1	3.22E-16	2.57E-16	1.26E-20	0.00E+00	6.59E-17	1.43E-20
Energy Depletion	MJ	6.01E+01	1.19E+00	9.22E-03	0.00E+00	5.89E+01	1.05E-02
Water depletion	dm ³	9.70E+00	5.96E-01	8.75E-04	0.00E+00	9.11E+00	9.95E-04
Global Warming	g≈CO ₂	3.07E+03	5.78E+01	7.26E-01	0.00E+00	3.01E+03	8.30E-01
Ozone Depletion	g≈CFC-11	2.71E-04	1.12E-05	5.16E-07	0.00E+00	2.59E-04	5.87E-07
Air Toxicity	m ³	5.91E+05	1.12E+04	1.38E+02	0.00E+00	5.80E+05	1.56E+02
Photochemical Ozone Creation	g≈C ₂ H ₄	1.07E+00	2.92E-02	6.24E-04	0.00E+00	1.04E+00	7.09E-04
Air acidification	g≈H ⁺	4.85E-01	9.05E-03	9.31E-05	0.00E+00	4.76E-01	1.06E-04
Water Toxicity	dm ³	7.49E+02	1.69E+01	9.13E-02	0.00E+00	7.31E+02	1.04E-01
Water Eutrophication	g≈PO ₄	1.46E-02	5.96E-03	1.21E-05	0.00E+00	8.59E-03	1.38E-05
Hazardous waste production	kg	4.90E-02	1.03E-03	2.72E-07	0.00E+00	4.80E-02	3.08E-07

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 4.0, and with its database version V11 (BDD11,0,2009).

The U phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

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.

Product Environmental Profile - PEP

Glossary

Raw Material Depletion (RMD)

This indicator quantifies the consumption of raw materials during the life cycle of the product. It is expressed as the fraction of natural resources that disappear each year, with respect to all the annual reserves of the material.

Energy Depletion (ED)

This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources.

This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.

Water Depletion (WD)

This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in m³.

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