Product Environmental Profile

Eaton ePDU Basic G3

PEP N° EATI-2014-001-V1-EN

The purpose of a Product Environmental Report is to highlight environmental considerations of the product and communicate comparable information about the intended benefits of that product.

Product Description

Product type :	PDU
Family name :	ePDU BA
Representative product name :	EBAB00
Commercial reference :	EBAXXX
Geographical representativity :	Europe
Weight :	6 147 g
Power apparent (VA) :	N/A
Power active (W) :	12 000
Dimensions (mm) :	1600 ; 52,2 ; 57,5

Function : To distribute the load of 6000 Watts from a UPS or power distribution unit/panel to IT equipment in a data center rack for 10 years.

About Eaton and the Environment

Eaton is developing customer solutions that drive sustainable growth around the globe, including efficiently using and conserving global resources, developing energy efficient products, reducing emissions, protecting the environment, and volunteering time to help build stronger communities.

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Figure 1 Eaton ePDU Basic G3

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Manufacturing Site Information

The Eaton ePDU G3 Basic product range are manufactured at Eaton production site of Morocco which is certified ISO14001 with an environmental management system.

Packaging Information

The packaging has been designed to be more ecological friendly. Its weight and volume are optimized as it is described in the European Union packaging directive. The total weight of Eaton ePDU G3 Basic packaging is 2 111g of cardboard.

Product Materials Information

Considerations in product design and supplier selection were made in order to ensure that this product does not contain restricted materials.

In addition, this product was designed to comply with the following material directives/standards:

RoHS Directive - 2011/65/EU
REACH Regulation (CE n° 1907/2006)
IEC 62474 : 2012

The constituent materials for the EBAB00 are distributed as the next figures shows:

Installation

The installation phase don't require any specific activity that generates impact on the environment

End of life

This product was designed to comply with the following recycling directives/standards:

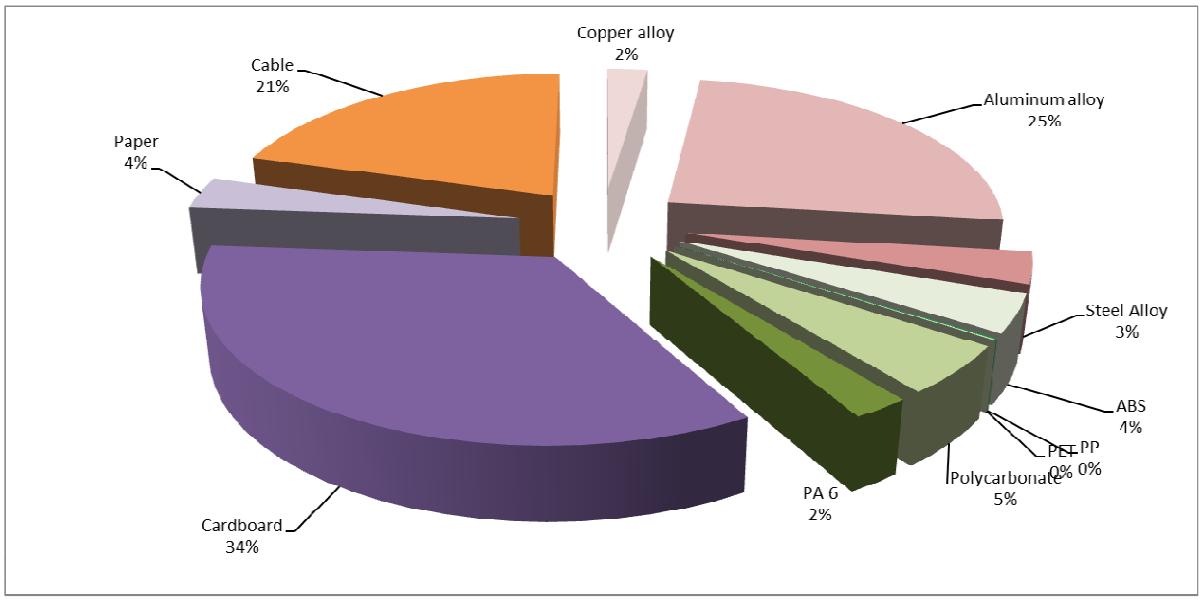
Directive 2012/19/EU (WEEE directive)
Directive 94/62/EC (Packaging directive)

The recyclability rate of this product is:
64,3%, calculated through the IEC62635 calculation method.

Additional Information

This product is also compliant with the requirement of IEC 62040-4 : 2013.

This PEP was conducted using:
PEP–PCR–ed2.1-EN-2012 12 11
PSR-0010-ed1-EN-2014 02 11



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Life Cycle Assessment Results – LCA is a detailed environmental assessment tool that evaluates the potential impacts of a product or service throughout its life cycle, from cradle to grave.

LCA Results Summary/Interpretation

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 and have been performed in conformity with ISO 14040 using the Simapro software version 7.3.2.

The first conclusion, upon inspection of these results, is that the use phase dominates the environmental profile of the Basic PDU life cycle. In fact, the use phase represent over 90% of the total contribution to six out of 10 impact indicator but for four categories the manufacturing phase could represent more than 50% of the total contribution. The contribution of the manufacturing is mostly caused by the plugs and the chassis which are the massive component of the Basic PDU.

LCA Details and Assumptions

This LCA was performed by GROUAS Florian using the PEPecopassport method.

The life cycle stages included within the system boundary are manufacturing phase, distribution, installation, use and end-of-life.

The use scenario was:

Yield	99,36%
Power (kw)	12
Power at 50% (kW)	6
Loss (W)	36
Using time (Years)	10 ans
Total loss (kwh)	3153,6

Table 1: Use phase scenario

The energy model used is “Electricity mix, AC, consumption mix, at consumer, 1kV - 60kV EU-27 S”

Environmental Performance Data

Impact category	Manufacturing	Transportation	Installation	Use	End-of-life
Eutrophication (kgeq (PO4)3-)	2,96E+01	2,44E-01	0*	7,01E+01	5,07E-02
Global warming IPCC (100 ans) (kgeq CO2)	2,32E+00	6,66E-02	0*	9,76E+01	1,70E-02
POCP-Tropospheric Ozone Creation (kgeq C2H4)	1,16E+01	2,43E-01	0*	8,81E+01	5,86E-02
Air Acidification (g eq H+)	2,88E+00	3,17E-01	0*	9,67E+01	6,57E-02
CVCH-air (m3)	7,62E+00	3,24E-01	0*	9,20E+01	6,71E-02
CVCH-Water (m3)	5,39E+01	1,56E-01	0*	4,59E+01	4,02E-02
WMO- ozone depletuion (kg eq CFC11)	7,42E-01	5,52E-04	0*	9,93E+01	1,43E-04
Ec(R*Y) – Ressources depletion NR (Year-1)	4,65E+01	5,33E-02	0*	5,35E+01	1,38E-02
Energy consumption (MJ)	4,93E-01	4,67E-02	0*	9,94E+01	1,20E-02
Water consumption (dm3)	1,00E+02	0,00E+00	0*	0,00E+00	0,00E+00

Figure 2: Basic ePDU G3 Impacts

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Glossary

Air acidification	Indicator, expressed in gram equivalent of H+, of the air acidification potential caused by the release of specific gases to the atmosphere
Air toxicity	Indicator, expressed in m3, of the quantity of air needed to dilute the toxic elements released into the air for all phases of the product life cycle
Energy depletion	Indicator of the total primary energy consumption throughout the product life cycle
Global warming potential	Indicator in gram equivalent of CO2 of emissions to air participating in the global warming effect. Example of the equivalence principle: 1 g of CO2 = 1 g~CO2; 1 g of CH4 (methane) equals the effect of 25 g of CO2, etc.
Photochemical ozone creation	Indicator in gram equivalent C2H4 having an effect on the photochemical ozone formation in the lower atmosphere (smog) under the effect of solar radiation
Raw material depletion	Indicator, expressed as a fraction of the reserve that disappears each year, of the depletion of natural resources, taking account of the quantity of worldwide reserves (mineral, fossil, etc.) for such resources and the current level of consumption
Stratospheric ozone depletion potential	Indicator in gram equivalent of CFC11 of emissions to air contributing to the depletion of the ozone layer
Water depletion	Indicator in dm3 of the total consumption of water throughout the product life cycle
Water eutrophication	Indicator in gram equivalent PO43- of the participation in water eutrophication by nutrient enrichment of the aquatic environment, for example: industrial and domestic effluents, agriculture, etc.
Water toxicity	Indicator, expressed in m3, of the quantity of water required to dilute the toxic elements discharged into the water for all phases of the product life cycle

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Independent verification of the declaration and the data in accordance with ISO 14025: 2006 Internal □ External ✓	
Compliant with the ISO 14025 standard: 2006 Type III environmental declarations	
PCR Review was conducted by a panel of experts chaired by J. Chevalier (CSTB)	
PEP data cannot be compared with data taken from another program.	

If you have questions about this document or the information to provide, please contact:
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You can also visit our webpage: http://powerquality.eaton.com/EMEA/About-Us/Sustainability-Green-Buildings/default.asp

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