



Eaton ZV Plug-in Busbar System 50A/80A. End cap for busbar cover

Representative product	ZV-AEK (Y7-263959)
Description of the product	Eaton's ZV-AEK is a precision-molded busbar endcap designed to terminate and insulate the exposed ends of Z-profile busbar shrouds. Engineered for use in low-voltage power distribution systems, this endcap enhances electrical safety by preventing accidental contact with live components and reducing the risk of short circuits. Its robust plastic construction ensures durability and a secure fit, making it an essential accessory for maintaining compliance with electrical installation standards.
Functional unit	'To provide reliable electrical insulation and mechanical protection at the termination points of Z-profile busbar shrouds, ensuring safety and maintaining the integrity of electrical installations for a reference service life of 20 years.'
Company information	Eaton Industries (Austria) GmbH Eugenia 1, Schrems, Austria, 3943 Email: productstewardship-es@eaton.com

Constituent Materials			
Reference product mass	5.48E-03 kg (With packaging)		
Category PEP Material	Material constituent	Mass (kg)	% Contribution
Other	Corrugated Cardboard	2.76E-03	50.5%
Plastics	Polyamide 6	1.61E-03	29.3%
Plastics	Polyethylene Low Density Film	7.12E-04	13.0%
Other	Wood	3.13E-04	5.7%
Other	Paper	6.80E-05	1.2%
Other	Glue	8.37E-06	0.2%

Other	Silicon	5.23E-06	0.1%
Total		5.48E-03	100.00%

Substance Assessment

The representative product is compliant with the EU-RoHS Directive (2011/65/EU) and the product doesn't contain any substance listed as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

Additional Environmental Information

Manufacturing	The reference product is assembled at an Eaton plant Austria Republic holding management system certifications according to ISO 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and packaging with focus to optimize transport efficiency.
Installation	The installation process does not require any energy consumption and there is no waste other than the obsolete product packaging generated during this step.
Use	The product does not require any energy consumption during operation.
End of life	The recyclability rate of the overall product is 63.4 % if it is properly dismantled prior to shredding. The rate is calculated based on PCR ed4 statistics and method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment"

Environmental Impacts

The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire lifecycle, i.e., "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life.

System modelling was carried out using the commercial LCA software EIME v6.3.0.1-4 with database version CODDE-2025-04

Indicators Set: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0

Manufacturing Phase	The product is manufactured in Eaton, Austria and then shipped to Eaton Plant in Czech Republic where it is labeled and Packed. Energy model used: Austria
Distribution Phase	Distribution of the product in its packaging from Eaton's last logistics platform to the installation place in Europe is considered as per PCR rules.
Installation Phase	Product is installed in Europe. Installation of product and treatment of packaging waste are considered in this phase. There is no energy consumption for reference products. Energy model used: Europe
Use Phase	Reference lifetime: 20 Years Usage profile: No energy consumption by the product during its useful life.
End of life Phase	Product disposed with WEEE guidelines. Energy model used: Europe
Module-D	Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and loads beyond the boundaries of the system and are not to be included in the life cycle totals.

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7-Use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Climate change – total (GWP)	kg CO2 eq.	2.95E-02	1.84E-02	1.23E-03	9.16E-03	0.00E+00	7.20E-04	-6.01E-04
Climate change - fossil fuels (GWP-f)	kg CO2 eq.	2.86E-02	2.27E-02	1.23E-03	3.96E-03	0.00E+00	7.16E-04	-4.64E-03
Climate change – biogenics (GWP-b)	kg CO2 eq.	9.50E-04	-4.26E-03	5.03E-09	5.21E-03	0.00E+00	4.26E-06	4.04E-03
Climate change - land use and land use transformation (GWP-lu)	kg CO2 eq.	4.30E-09	2.36E-09	1.86E-09	1.22E-11	0.00E+00	7.24E-11	0.00E+00
Ozone depletion (ODP)	kg eq. CFC-11	6.31E-10	5.06E-10	1.49E-11	5.61E-11	0.00E+00	5.34E-11	-1.33E-10
Acidification (AP)	mole of H+ eq.	8.91E-05	7.00E-05	1.94E-06	1.31E-05	0.00E+00	4.07E-06	-2.55E-05
Freshwater eutrophication (EP-fw)	kg P eq.	8.01E-07	7.42E-07	4.60E-09	5.35E-08	0.00E+00	1.05E-09	-5.36E-08
Marine aquatic eutrophication (EP-m)	kg of N eq.	2.47E-05	1.83E-05	3.52E-07	5.04E-06	0.00E+00	9.84E-07	-6.55E-06
Terrestrial eutrophication (EP-t)	mole of N eq.	2.44E-04	1.89E-04	3.87E-06	3.83E-05	0.00E+00	1.29E-05	-5.70E-05
Photochemical ozone formation (POCP)	kg of NMVOC eq.	6.21E-05	4.94E-05	1.25E-06	8.57E-06	0.00E+00	2.87E-06	-1.51E-05
Depletion of abiotic resources – elements (ADPe)	kg eq. Sb	7.21E-09	6.42E-09	4.39E-10	2.60E-10	0.00E+00	8.97E-11	-4.94E-10
Depletion of abiotic resources - fossil fuels (ADP-f)	MJ	4.97E-01	4.20E-01	2.18E-02	4.38E-02	0.00E+00	1.13E-02	-9.55E-02
Water scarcity (WDP)	m3 of eq. deprivation worldwide	2.54E-03	2.06E-03	4.43E-05	3.67E-04	0.00E+00	6.65E-05	-1.04E-03

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7-Use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.40E-02	4.76E-03	6.89E-05	8.42E-03	0.00E+00	7.51E-04	1.04E-02
Use of renewable primary energy resources used as raw materials	MJ	5.57E-02	5.57E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.18E-02
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	6.97E-02	6.05E-02	6.89E-05	8.42E-03	0.00E+00	7.51E-04	-4.15E-02
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	3.93E-01	3.16E-01	2.18E-02	4.38E-02	0.00E+00	1.13E-02	-6.96E-02

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7-Use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Use of non-renewable primary energy resources used as raw materials	MJ	1.04E-01	1.04E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.59E-02
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	4.97E-01	4.20E-01	2.18E-02	4.38E-02	0.00E+00	1.13E-02	-9.55E-02
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	7.68E-05	4.84E-05	1.03E-06	2.59E-05	0.00E+00	1.45E-06	-2.42E-05
Hazardous waste disposed of	kg	2.83E-03	5.28E-04	5.15E-06	2.33E-04	0.00E+00	2.06E-03	-1.21E-04
Non-hazardous waste disposed of	kg	4.02E-03	2.72E-03	1.14E-04	1.11E-03	0.00E+00	8.12E-05	-2.10E-03
Radioactive waste disposed of	kg	1.51E-06	1.13E-06	9.05E-08	2.53E-07	0.00E+00	4.24E-08	-9.41E-07
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	3.47E-03	0.00E+00	0.00E+00	3.47E-03	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	3.54E-04	0.00E+00	0.00E+00	3.54E-04	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7-Use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	5.86E-10	4.63E-10	1.67E-11	7.93E-11	0.00E+00	2.70E-11	-1.45E-10
Ionizing radiation, human health	kBq of U235 eq.	1.16E-01	1.15E-01	4.35E-05	8.17E-04	0.00E+00	2.09E-04	-1.12E-01
Ecotoxicity, fresh water	CTUe	5.78E+01	5.77E+01	3.59E-02	5.32E-02	0.00E+00	1.90E-02	-7.57E-02
Human toxicity, cancer effects	CTUh	1.21E-09	7.97E-10	2.41E-13	4.11E-10	0.00E+00	1.88E-13	-4.64E-10
Human toxicity, non-cancer effects	CTUh	4.95E-10	4.70E-10	4.60E-12	1.21E-11	0.00E+00	8.20E-12	-1.23E-11
Impacts related to land use/soil quality	-	8.13E-05	4.09E-05	5.26E-06	1.88E-05	0.00E+00	1.63E-05	0.00E+00
Total use of primary energy during the life cycle	MJ	5.67E-01	4.80E-01	2.19E-02	5.22E-02	0.00E+00	1.21E-02	-1.37E-01

Disclaimer

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		<i>Validity period</i>	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006			
Internal	X	External	
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
<i>PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019</i>			
<i>The components of the present PEP may not be compared with components from any other program.</i>			
<i>Document complies with ISO 14025: 2006 « Environmental labels and declarations. Type III environmental declarations »</i>			