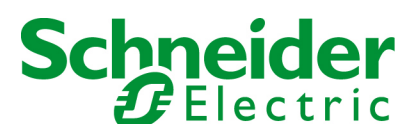
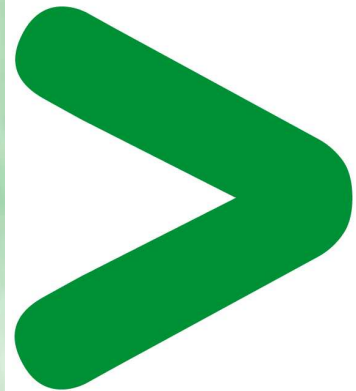
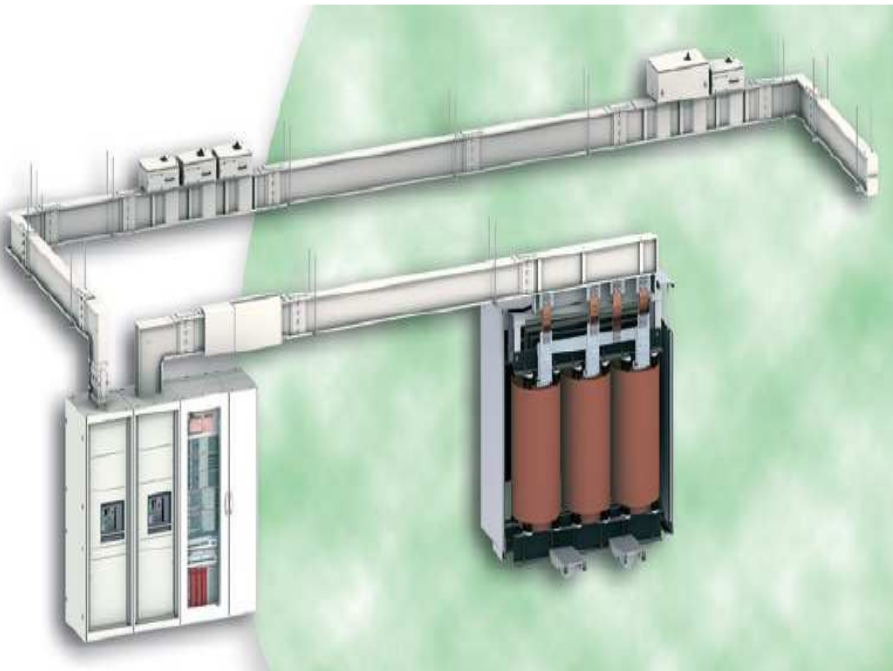


# Product Environmental Profile

Canalis KTA 2500 A



# Product Environmental Profile – PEP

## Product overview

The main purpose of the **Canalis KTA** product range is to transport and distribute electrical energy for high power applications by using Busbar Trunking systems for 20years.

- Canalis is part of a comprehensive offering of Schneider Electric products designed to operate together. This concept covers all low and medium voltage electrical distribution components.
- The result is an optimised electrical installation with even higher performance through full electrical, mechanical and communication compatibility.
- With the Canalis range, we get a complete, tested distribution solution that complies with standards.
- It is perfectly suited to traditional applications (factories, warehouses, etc.) and to the distribution of electrical power from the incoming transformer on through to all types of loads in offices, commercial premises, laboratories, etc.

This range consists of **KTA, 800 to 4000 A, IP55**.

The representative product used for the analysis is the typical product, KTA 2500 A, which consists of:

- 2 x 2500 A power feed boxes (cat. no. KTA2500ER41),
- 8 x 4 m transport components (cat. no. KTA2500ET440),
- 8 x 4 m distribution components (cat. no. KTA2500ED440),
- 11 components for changing direction (cat. no. KTA2500LP4A1, KTA2500LP4B2, KTA2500LC4A, KTA2500LC4B, KTA2500TC4, KTA2500ZP4, KTA2500ZC41)
- 20 enclosures (cat. no. KSB400DC4, KSB160DC4, KSB160SF4, KSB400SE4)

### Lists of functions included in the configuration

Product Number	Description & Size (mm)	Qty	Device	Device Function
1. KTA2500ER41	KT 4X2500AL FEED UNIT ER N1 (A+200) x Y x H = (235+200) x 350 x 244	2	Feed Unit Aluminium Busbar Trunking 3L + N + PE Polarity	Supply connections allow the busbar trunking to be connected to the switchboard's busbar or to the transformer.
2. KTA2500ET440	KT 4X2500AL FEEDER LENGTH 4M L x B x H = 4000 x 140 x 244	8	Feeder Length Aluminium Busbar Trunking 3L + N + PE Polarity	Transport the current without tap-off points. Available in 2 and 4 metre fixed lengths.
3. KTA2500ED440	KT 4X2500AL PLUG-IN LENGTH 4M L x B x H = 4000 x 140 x 244	8	Distribution length for plug-in tap-off units Aluminium Busbar Trunking 3L + N + PE Polarity	ED run sections are for current distribution. They use 25 to 400 A KS tap-off units. The tap-off units can be plugged-on whilst live, but off-load. Available in fixed 2 or 4 metre lengths with 3 tap-off points on one side.
4. KTA2500LP4A1	KT 4X2500AL FLAT ELBOW N1 A x B x H = 300 x 300 x 244	2	Flat Elbow Aluminium Busbar Trunking 3L + N + PE Polarity Fixed Angle	Helps to connect the devices which need to turn left or right. This Elbow components also uses for changing direction of the busbar trunking and available in fixed angle
5. KTA2500LP4B2	KT 4X2500AL FLAT ELBOW N2 A x B x H = 300 x (301 to 799) x 244	2	Flat Elbow Aluminium Busbar Trunking 3L + N + PE Polarity Made-to-measure angle	Helps to connect the devices which need to turn left or right. This Elbow components also uses for changing direction of the busbar trunking and available in Made-to-measure angle

## Product Environmental Profile – PEP

6. KTA2500LC4A	KT 4X2500AL EDGEWISE ELBOW A x B x H = 360 x 360 x 244	2	Edgewise Elbow Aluminium Busbar Trunking 3L + N + PE Polarity Fixed angle	Helps to connect the devices which need to go up and down. This Elbow components also uses for changing direction of the busbar trunking and available in fixed angle
7. KTA2500LC4B	KT 4X2500AL EDGEWISE ELBOW A x B x H = 360 x (361 to 859) x 244	2	Edgewise Elbow Aluminium Busbar Trunking 3L + N + PE Polarity Made-to-measure angle	Helps to connect the devices which need to go up and down. This Elbow components also uses for changing direction of the busbar trunking and available in Made-to-measure angle
8. KTA2500TC4	T 4X2500AL TEE ON EDGE (A+C) x B x H = (360+360) x 360 x 244	1	Edgewise T Junctions Aluminium Busbar Trunking 3L + N + PE Polarity	Helps to connect and feed runs perpendicular to the main run
9. KTA2500ZP4	KT 4X2500AL ZED ON FLAT (A+C) x B x H = (300+300) x (130 to 599) x 244	1	Zed types 3 branch Aluminium Busbar Trunking 3L + N + PE Polarity Made-to-measure lengths	Helps to move the run axis to the right or to the left without having to bend the busbar trunking: Zed P available in Made-to-measure lengths
10. KTA2500ZC41	KT 4X2500AL EDGEWISE ZED N1 (A+C) x B x H = (360+360) x (90 to 719) x 244	1	Zed types 3 branch Aluminium Busbar Trunking 3L + N + PE Polarity Made-to-measure lengths	Helps to move the run axis to upwards and downwards, without having to bend the busbar trunking: Zed C available in Made-to-measure lengths
11. KSB160DC4	TAP OFF UNIT 160A COMPACT NS A x C x B = 450 x 310 x 201	5	Canalis KS Tap off units Steel Tap Off units 3L + N + PE Polarity. Circuit breaker protection	Canalis KS Tap-OFF units are compatible with the Canalis KT busbar trunking. The tap-off units can be plugged-on whilst live, but off-load. Protection is ensured with Compact NSX circuit breakers (NSX100 or NSX160 Curve N, H or L, Rotary handle)
12. KSB400DC4	TAP OFF UNIT 400A COMPACT NS A x C x B = 700 x 400 x 305	5	Canalis KS Tap off units Steel Tap Off units 3L + N + PE Polarity Circuit breaker protection	Canalis KS Tap-OFF units are compatible with the Canalis KT busbar trunking. The tap-off units can be plugged-on whilst live, but off-load. Protection is ensured with Compact NSX circuit breakers (NSX400 Curve N, H or L, Rotary handle)
13. KSB160SF4	TAP OFF UNIT 160A FUSE TO A x C x E = 450 x 300 x 207	5	Canalis KS Tap off units Steel Tap Off units 3L + N + PE Polarity. Fuse Protection	Canalis KS Tap-OFF units are compatible with the Canalis KT busbar trunking. The tap-off units can be plugged-on whilst live, but off-load. Protection is ensured with NF / DIN blade fuses (Size 0: Type gG: 160 A max. Type aM: 160 A max.)
14. KSB400SE4	TAP OFF UNIT 400A FUSE T2 A x C x B = 600 x 600 x 316	5	Canalis KS Tap off units Steel Tap Off units 3L + N + PE Polarity. Fuse Protection	Canalis KS Tap-OFF units are compatible with the Canalis KT busbar trunking. The tap-off units can be plugged-on whilst live, but off-load. Protection is ensured with NF / DIN blade fuses (Size 2: Type gG: 400 A max. Type aM: 400 A max.)

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 “Environmental management: Life cycle assessment – Principle and framework”.

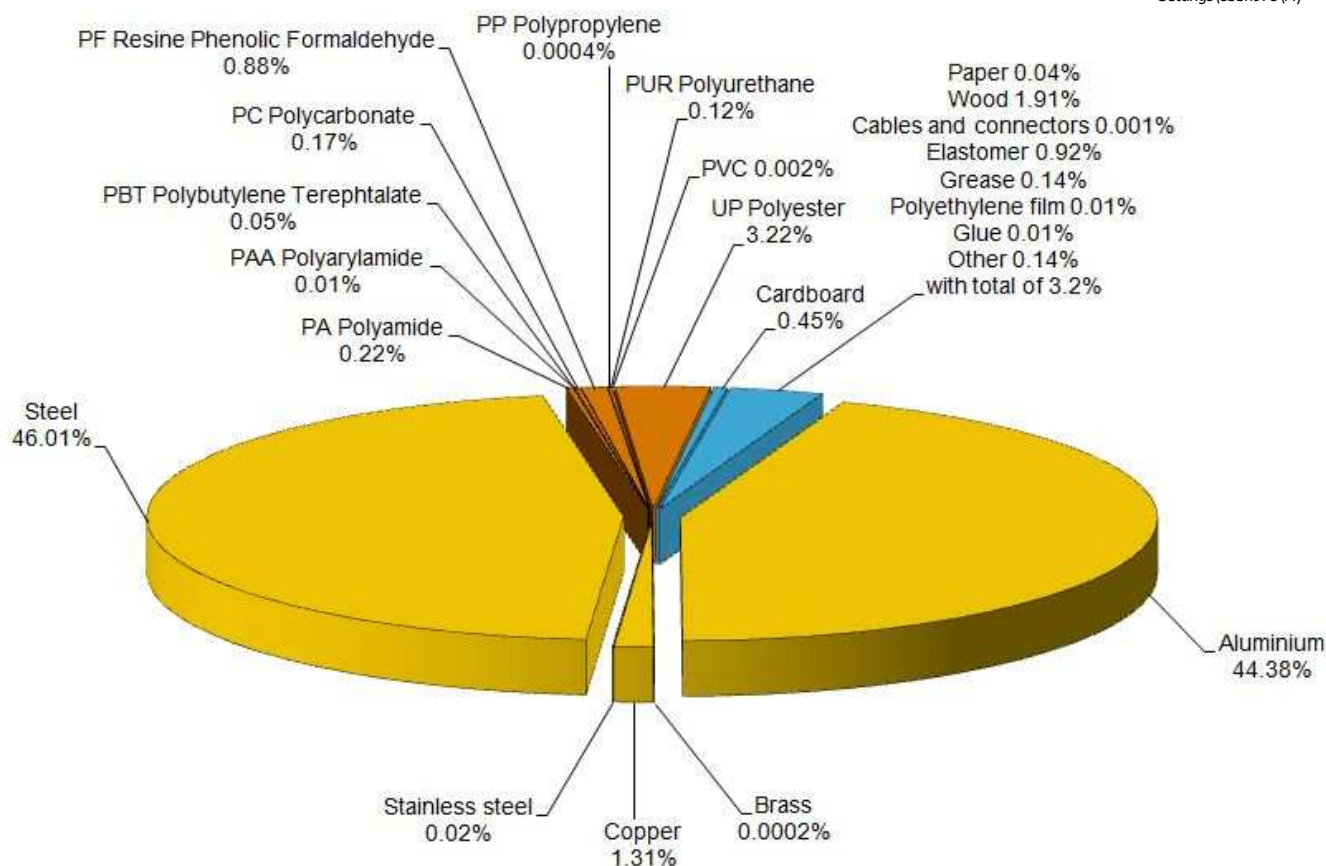
This analysis takes the stages in the life cycle of the product into account.

## Product Environmental Profile – PEP

### Constituent materials

The mass of the Canalis KTA product range is from 2000 kg and 3000 kg including packaging. It is **2867 kg** for the **Canalis KTA 2500 A**; the constituent materials are distributed as follows:

  
D:\documents and Settings\ebbh975\My



### Substance assessment

Products of this range are designed in conformity with the requirements of the European RoHS Directive 2011/65/EU 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

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) . (<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page> )

### Manufacturing

The Canalis KTA product range is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

# Product Environmental Profile – PEP

## Distribution

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

The Canalis KTA 2500A packaging weight is **69.23 kg**. It consists of Cardboard 13.03 kg, Paper 1.26 kg, Polyethylene film 0.16 kg and Wood 54.77 kg.

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

## Use

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

The dissipated power depends on the conditions under which the product is implemented and used. This dissipated power is between 22000 W and 22500 W for the KTA product range. It is 22400 W at 100% load for the referenced KT 4X2500AL FEED UNIT ER N1, i.e. 350 W/metre.

This thermal dissipation represents less than **0.1%** of the power which passes through the product.

The product range does not require special maintenance operations.

## End of life

At end of life, the products in the Canalis KTA 2500 A have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range doesn't need any special end-of-life treatment. According to countries' practices this product can enter the usual end-of-life treatment process.

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 without packaging is: **76%**.

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 **Canalis KTA 2500 A**.
- Product packaging is included.
- Installation components: No special components included.
- Scenario for the Use phase: This product range is included in the category "**Energy passing product**". Assumed service lifetime is **20 years** with an installation utilisation rate of 30 % and a load rate of 50%.
- The geographical representative area for the assessment is **EUROPEAN** and the electrical power model used for calculation is **Europe** model.
- End of life impacts are based on a worst case transport distance to the recycling plant (1000km)

## Product Environmental Profile – PEP

### Presentation of the product environmental impacts

Environmental indicators	Unit	For Canalis KTA 2500 A					
		S = M + D + I + U + E	M	D	I	U	E
Air Acidification (AA)	kg H+ eq	3.08E+02	3.23E+00	9.25E-02	0.00E+00	3.04E+02	4.08E-01
Air toxicity (AT)	m <sup>3</sup>	3.81E+11	4.37E+09	1.37E+08	0.00E+00	3.76E+11	6.08E+08
Energy Depletion (ED)	MJ	4.52E+07	2.80E+05	6.93E+03	0.00E+00	4.49E+07	2.93E+04
Global Warming Potential (GWP)	kg CO <sub>2</sub> eq.	2.29E+06	1.74E+04	4.93E+02	0.00E+00	2.27E+06	2.08E+03
Hazardous Waste Production (HWP)	kg	3.89E+04	1.24E+03	6.09E-04	0.00E+00	3.76E+04	2.57E-03
Ozone Depletion Potential (ODP)	kg CFC-11 eq.	1.25E-01	1.82E-03	9.32E-07	0.00E+00	1.23E-01	3.94E-06
Photochemical Ozone Creation Potential (POCP)	kg C <sub>2</sub> H <sub>4</sub> eq.	8.00E+02	5.77E+00	1.27E-01	0.00E+00	7.93E+02	5.18E-01
Raw Material Depletion (RMD)	Y-1	6.07E-11	9.58E-12	1.01E-14	0.00E+00	5.10E-11	4.25E-14
Water Depletion (WD)	dm <sup>3</sup>	6.58E+06	8.61E+04	5.11E+01	0.00E+00	6.49E+06	2.16E+02
Water Eutrophication (WE)	kg PO <sub>4</sub> <sup>3-</sup> eq.	5.57E+00	2.33E-01	9.14E-04	0.00E+00	5.33E+00	3.86E-03
Water Toxicity (WT)	m <sup>3</sup>	6.56E+05	3.67E+03	2.10E+02	0.00E+00	6.51E+05	8.89E+02

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 5 and with its database version 2013-02

The **USE (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 European RoHS Directive 2011/65/EU, 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

<b>Air Acidification (AA)</b>	The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests. The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mole equivalent of H <sup>+</sup> .
<b>Air Toxicity (AT)</b>	This indicator represents the air toxicity in a human environment. It takes into account the usually accepted concentrations for several gases in the air and the quantity of gas released over the life cycle. The indication given corresponds to the air volume needed to dilute these gases down to acceptable concentrations.
<b>Energy Depletion (ED)</b>	This indicator gives the quantity of energy consumed, whether it is from fossil, hydroelectric, nuclear or other sources. It takes into account the energy from the material produced during combustion. It is expressed in MJ.
<b>Global Warming (GW)</b>	The global warming of the planet is the result of the increase in the greenhouse effect due to the sunlight reflected by the earth's surface being absorbed by certain gases known as "greenhouse-effect" gases. The effect is quantified in gram equivalent of CO <sub>2</sub> .
<b>Hazardous Waste Production (HWP)</b>	This indicator quantifies the quantity of specially treated waste created during all the life cycle phases (manufacturing, distribution and utilization). For example, special industrial waste in the manufacturing phase, waste associated with the production of electrical power, etc. It is expressed in kg.
<b>Ozone Depletion (OD)</b>	This indicator defines the contribution to the phenomenon of the disappearance of the stratospheric ozone layer due to the emission of certain specific gases. The effect is expressed in gram equivalent of CFC-11.
<b>Photochemical Ozone Creation (POC)</b>	This indicator quantifies the contribution to the "smog" phenomenon (the photochemical oxidation of certain gases which generates ozone) and is expressed in gram equivalent of ethylene (C <sub>2</sub> H <sub>4</sub> ).
<b>Raw Material Depletion (RMD)</b>	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.
<b>Water Depletion (WD)</b>	This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm <sup>3</sup> .
<b>Water Eutrophication (WE)</b>	Eutrophication is a natural process defined as the enrichment in mineral salts of marine or lake waters or a process accelerated by human intervention, defined as the enrichment in nutritive elements (phosphorous compounds, nitrogen compounds and organic matter). This indicator represents the water Eutrophication of lakes and marine waters by the release of specific substances in the effluents. It is expressed in grams equivalency of PO43-(phosphate).
<b>Water Toxicity (WT)</b>	This indicator represents the water toxicity. It takes into account the usually accepted concentrations for several substances in water and the quantity of substances released over the life cycle. The indication given corresponds to the water volume needed to dilute these substances down to acceptable concentrations.

PEP achieved with Schneider-Electric TT01 V11 and TT02 V19 procedures in compliance with ISO14040 series standards

Registration N° : <b>SCHN - 2015-023</b>		Applicable PCR : PEP-PCR-ed 2.1-EN-2012 12 11	
Verifier accreditation N° : <b>VH08</b>		Program information: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>	
Date of issue: <b>03-2015</b>		Period of validity: <b>4 years</b>	
Independent verification of the declaration and data, according to ISO 14025:2006			
Internal		External	<input checked="" type="checkbox"/>
In compliance with ISO 14025:2006 type III environmental declarations			
PCR review was conducted by an expert panel chaired by J. Chevalier (CSTB).			
The elements of the actual PEP cannot be compared with elements from another program.			

### Schneider Electric Industries SAS

35, rue Joseph Monier  
CS 30323  
F- 92506 Rueil Malmaison Cedex  
RCS Nanterre 954 503 439  
Capital social 896 313 776 €

[www.schneider-electric.com](http://www.schneider-electric.com)