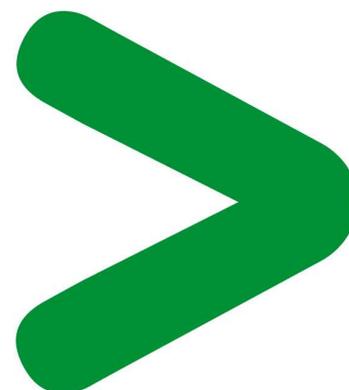


Product Environmental Profile

Canalis KBB 25A-40A



Product Environmental Profile – PEP

Product overview

The main purpose of the Canalis KBB product range is to distribute electrical power for lighting (with luminaire support brackets) for 20 years. Canalis KBB busbar trunking is a full and compatible range for lighting systems in all types of buildings (garages, workshop, and supermarket). It is very heavy duty and has centre-to-centre fixing distances of up to 5 metres, capable of supporting a large number of heavy light fittings.

Technical characteristics of Canalis KBB:

- Length of busbar trunking components: 2 or 3m
- Rated service current: 25 and 40A
- Rated tap off units current: 10 and 16A
- Rated insulating voltage: 690V
- Number of circuits: 1 or 2 circuits (2 or 4 conductors)
- Protection index: IP55
- Surface treatment: galvanised or white RAL 9010
- Regulations: compliant with IEC 60439-2

This range consists of: **Canalis KBB, 25 to 40 A, IP55.**

The representative product used for the analysis is the typical product, Canalis KBB 25 A - 40A, which consists of:

- 1 x 40 A Power Feed Box (cat. no. KBB40ABG4)
- 7 x 3 m Straight Lengths, 1 m Modules for Tap-OFF units (cat. no. KBB25ED4303)
- 22 Fixing Devices (cat. no. KBB40ZFU)
- 7 Connectors (cat. no. KBC10DCB20)

Lists of functions included in the configuration

| Product Number | Description & Size (mm) | Qty | Device | Device Function |
|----------------|--|-----|--|--|
| 1. KBB40ABG4 | FEED UNIT 40A LEFT MOUNTING Feed Unit L x B x H = 244 x 75.5 x 75.5 End Cover L x B x H = 46 x 30 x 46 | 1 | Feed Unit supplied with End Cover Left Mounting | The feed units delivered with the end covers receive the cables supplying one end of Canalis KBB trunking. The end covers supplied with the feed units terminate the signal length and insure the IP level |
| 2. KBB25ED4303 | STRAIGHT DISTRIBUTION LENGTH 25A 3M L x B x H = 3000 x 51 x 60 | 7 | Straight Distribution Length 3Ph + N + PE Polarity 3 Tap-Off units 2 or 4 live conductors. Available in 2 & 3 metre fixed lengths. | Transport (Carry) the current with Tap-off points, support and supply the luminaires. Canalis KBB is specially intended for installations with large fixing distances and/or heavy or numerous luminaires. |
| 3. KBB40ZFU | UNIVERSAL FIXING BRACKET L x B x H = 55 x 22 x 70.5 | 22 | Fixing System Mounting for direct suspension under trunking Suspended on threaded rod or lateral (except wall) | The fixing system ensures that Canalis KBB is well secured, whatever the type of building structure. There are also fixings to secure the luminaires to Canalis KBB. A metal duct is available for running other circuits such as emergency lighting, low-current circuits, etc. |
| 4. KBC10DCB20 | 10A TAPOFF UNITS L x B x H = 1114 x 60 x 62 | 7 | 10A TAP-OFF Unit 2-Pole + PE, To be wired | The 10 and 16 A tap-off units pre-wired or not, offer phase selection or fixed polarities, and can be used on KDP, KDA and KBB ranges. |

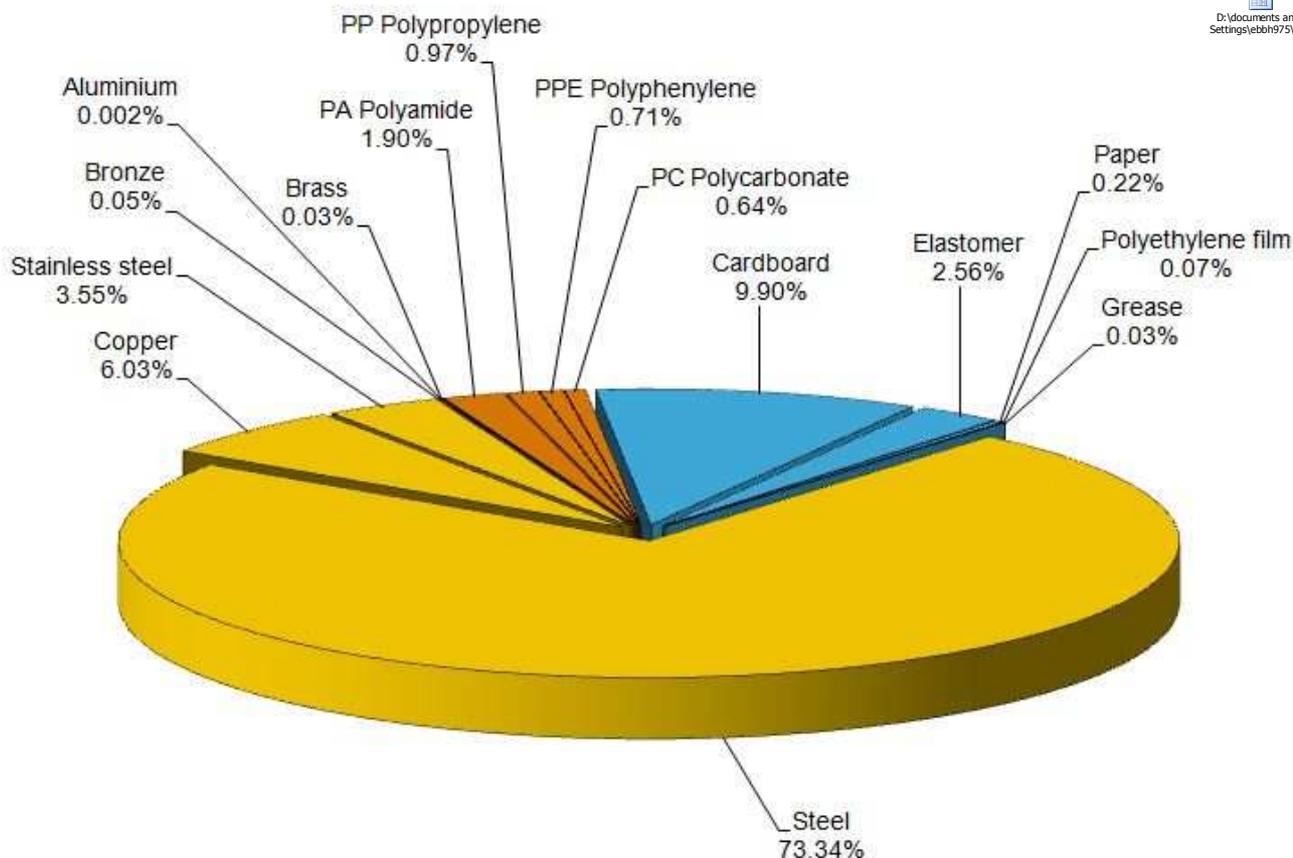
The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.

The environmental analysis was performed in conformity with ISO 14040.

Product Environmental Profile – PEP

Constituent materials

The mass of the product range is from 30000 g and 36000 g including packaging. It is **35288.06 g** for the **Canalis KBB 25A – 40A**. The constituent materials are distributed as follows:



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 KBB 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 Canalis KBB 25A – 40A packaging weight is **3592.6 g**. It consists of Cardboard 3492.6 g, Paper 77 g and Polyethylene film 23 g.

Product Environmental Profile – PEP

Use

The products of the Canalis KBB 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 0 W and 220 W for the Canalis KBB product range. It is 218 W at 100% load for the typical product, Canalis KBB 25A – 40A, referenced, i.e. 10.4 W/metre.

This thermal dissipation represents less than **0.2%** of the power which passes through the product.

End of life

At end of life, the products in the Canalis KBB 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: **91%**.

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 KBB 25A – 40A**.
- 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 **Europe** 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)

Product Environmental Profile – PEP

Presentation of the product environmental impacts

| Environmental indicators | Unit | For KBB 25A – 40A | | | | | |
|---|--------------------------------------|-----------------------|----------|----------|----------|----------|----------|
| | | S = M + D + I + U + E | M | D | I | U | E |
| Air Acidification (AA) | kg H+ eq | 9.16E-01 | 2.11E-02 | 1.14E-03 | 0.00E+00 | 8.88E-01 | 5.02E-03 |
| Air toxicity (AT) | m ³ | 1.15E+09 | 4.13E+07 | 1.69E+06 | 0.00E+00 | 1.10E+09 | 7.48E+06 |
| Energy Depletion (ED) | MJ | 1.33E+05 | 1.85E+03 | 8.53E+01 | 0.00E+00 | 1.31E+05 | 3.61E+02 |
| Global Warming Potential (GWP) | kg CO ₂ eq. | 6.78E+03 | 1.30E+02 | 6.07E+00 | 0.00E+00 | 6.62E+03 | 2.56E+01 |
| Hazardous Waste Production (HWP) | kg | 1.12E+02 | 1.70E+00 | 7.49E-06 | 0.00E+00 | 1.10E+02 | 3.17E-05 |
| Ozone Depletion Potential (ODP) | kg CFC-11 eq. | 3.70E-04 | 1.02E-05 | 1.15E-08 | 0.00E+00 | 3.60E-04 | 4.85E-08 |
| Photochemical Ozone Creation Potential (POCP) | kg C ₂ H ₄ eq. | 2.35E+00 | 2.88E-02 | 1.56E-03 | 0.00E+00 | 2.32E+00 | 6.37E-03 |
| Raw Material Depletion (RMD) | Y-1 | 3.87E-13 | 2.37E-13 | 1.24E-16 | 0.00E+00 | 1.49E-13 | 5.23E-16 |
| Water Depletion (WD) | dm ³ | 2.02E+04 | 1.22E+03 | 6.29E-01 | 0.00E+00 | 1.90E+04 | 2.66E+00 |
| Water Eutrophication (WE) | kg PO ₄ ³⁻ eq. | 2.43E-02 | 8.73E-03 | 1.12E-05 | 0.00E+00 | 1.56E-02 | 4.75E-05 |
| Water Toxicity (WT) | m ³ | 1.95E+03 | 3.25E+01 | 2.59E+00 | 0.00E+00 | 1.90E+03 | 1.09E+01 |

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

| | |
|---|---|
| Air Acidification (AA) | 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 mode equivalent of H ⁺ . |
| Air Toxicity (AT) | 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. |
| Energy Depletion (ED) | 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. |
| Global Warming (GW) | 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 ₂ . |
| Hazardous Waste Production (HWP) | 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. |
| Ozone Depletion (OD) | 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. |
| Photochemical Ozone Creation (POC) | 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 ₂ H ₄). |
| 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. |
| Water Depletion (WD) | This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm ³ . |
| Water Eutrophication (WE) | 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). |
| Water Toxicity (WT) | 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 V10.3 and TT02 V19 procedures in compliance with ISO14040 series standards

| | |
|---|--|
| Registration N° : SCHN-2015-047 | Applicable PCR : PEP-PCR-ed 2.1-EN-2012 12 11 PSR0003-ed1-EN-2012 02 02-Cable Management Solutions |
| Verifier accreditation N° : VH08 | Program information: www.pep-ecopassport.org |
| Date of issue: 03-2015 | Period of validity: 4 years |
| Independent verification of the declaration and data, according to ISO 14025:2006 | |
| Internal | External |
| | X |
| 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. | |



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