

Canalis KDP 20 A

Product Environmental Profile



Product Environmental Profile - PEP

Product overview

The main purpose of the Canalis KDP product range is to distribute electrical power for lighting (without luminaire support brackets).

This range, halogen-free, consists of: Canalis KDP 20 A, IP55.

The representative product used for the analysis is the typical product, KDP, which consists of:

- 1 x 20 A power feed box (cat. no. KDP20ABG4)
- 30 m of busbar trunking (cat. no. KDP20ED2192150)
- 10 connectors (cat. no. KBC10DCB20)
- 60 fixing devices (cat. no. KDPZF10)

The environmental impacts of this referenced product are representative of the other products in the range for which the same technology is used.

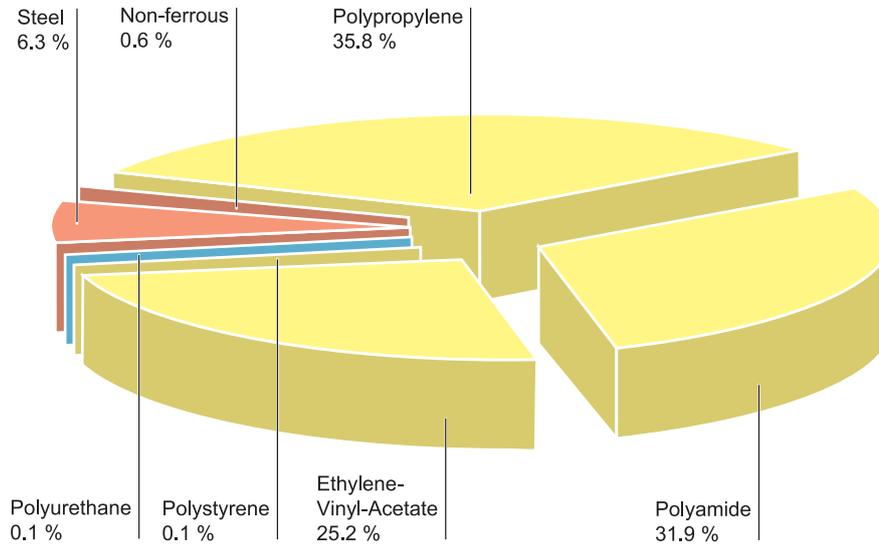
The environmental analysis was performed in conformity with ISO 14040 “Environmental management: Life cycle assessment – Principle and framework”.

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

Constituent materials

The total mass of the typical product, KDP 20 A, is 6892 g, not including the packaging, for the product analysed.

The constituent materials are distributed as follows:



All necessary steps have been taken with our services, suppliers and subcontractors to ensure that the materials used in the composition of the Canalis KDP product range do not contain any substances prohibited by the legislation that was in force⁽¹⁾ when it was put on the market.

(1) according to the list available on request.

Manufacturing

The Canalis KDP product range is manufactured at a Schneider Electric production site on which an ISO 14001 certified environmental management system has been established.

Distribution

The weight and volume of the packaging have been reduced in compliance with the European Union's packaging directive. The weight of the packaging of the typical product, KDP, is 2190 g. It consists of 2030 g of polypropylene and 160 g of cardboard. The product distribution flows have been optimised by setting up the Internal Distribution Centre on the production site and Local Distribution Centres close to the market areas.

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Utilization

The products in the Canalis KDP range do not generate any environmental pollution requiring special precautionary measures (noise, emissions, etc.).

The dissipated power depends on the conditions under which the product is implemented and used.

The dissipated power is 104 W for the typical product, KDP, referenced, i.e. 3.5 W/metre.

This heat dissipation accounts for less than 0.1 % of the total power passing through the product.

End of life

At end of life, the products in the Canalis KDP range can either be dismantled or crushed to facilitate the recovery of the various constituent materials.

The recycling potential is higher than 75 %. This percentage includes ferrous metals, copper, aluminium and marked thermoplastic resins not containing brominated flame retardants, such as those mentioned in the RoHS directive, or halogenated flame retardants.

The end of life data appears on the product end-of-life sheet.

Environmental impacts



The EIME (Environmental Impact and Management Explorer) software, version 1.6 and its database were used for the Life Cycle Assessment (LCA).

The assumed service life of the product is 20 years, the utilisation rate of the installation is 30 % and the EUROPEAN electrical power model is used.

The analysis focused on a "typical product", the KDP, consisting of 30 m of busbar trunking, cat. no. KDP20ED2192150, a power feed box, cat. no. KDP20ABG4, 10 connectors, cat. no. KBC10DCB20 and 60 fixing devices, cat. no. KDPZF10.

The environmental impacts were analysed for the Manufacturing (M) phase including the processing of raw materials, the Distribution (D) phase including transport and the Utilisation (U) phase including energy consumption.

Presentation of product environmental impacts

Environmental indicators	Unit	For a Canalis KDP 20 A (1,000 unit)			
		S = M + D + U	M	D	U
Raw Material Depletion	Y-1	3.77 10 ⁻¹⁴	1.19 10 ⁻¹⁴	2.99 10 ⁻¹⁷	2.59 10 ⁻¹⁴
Energy Depletion	MJ	6.39 10 ⁴	6.55 10 ²	21.5	6.32 10 ⁴
Water Depletion	dm ³	1.32 10 ⁴	3.35 10 ²	2.08	1.29 10 ⁴
Global Warming	g≈CO ₂	4.26 10 ⁵	1.77 10 ⁴	1.87 10 ³	4.07 10 ⁵
Ozone Depletion	g≈CFC-11	3.54 10 ⁻²	2.22 10 ⁻³	1.23 10 ⁻³	3.19 10 ⁻²
Photochemical Ozone Creation	g≈C ₂ H ₄	2.20 10 ²	13.9	2.34	2.04 10 ²
Air Acidification	g≈H ⁺	85.2	5.33	4.43 10 ⁻¹	79.4
Hazardous Waste Production	kg	5.44	2.11 10 ⁻¹	6.62 10 ⁻⁴	5.23

The life cycle analysis showed that the Utilisation phase is the life cycle phase that has the greatest impact on the majority of the environmental indicators and the environmental parameters of this phase were optimised at the design stage, with the specific aim of reducing energy losses.

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System approach

The environmental impacts of the product depend on the conditions under which it is installed and used.

The environmental impact data listed in the above table is only valid within the specified context and cannot be used directly in the environmental report on the installation.

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 dm³.

Global Warming Potential (GWP)

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 CO₂.

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 methane (C₂H₄).

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⁺.

Hazardous Waste Production (HWP)

This indicator calculates 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.



We are committed to safeguarding our planet by "Combining innovation and continuous improvement to meet the new environmental challenges".

Schneider Electric Industries SAS
89, boulevard Franklin Roosevelt
F - 92500 Rueil-Malmaison (France)
Tel : +33 (0)1 41 29 85 00

<http://www.schneider-electric.com>

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