

MC & CTL

Product Environmental Profile

Mini-trunking system



Product Environmental Profile - PEP

Product overview

The main function of the MC-CTL Mini-trunking product range is to distribute electricity inside residential buildings.

This range consists of:

1. MC Mini-trunking range with 10 sizes.
2. CTL Mini-trunking range with 7 sizes.
3. Accessories, connection and distribution boxes, bounding tape and nail plugs.

The representative product used for the analysis is a singular installation consisting of several components, which represent the grade point average of each product family. For the environmental indicators, the results are given in reference to 1 meter.

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

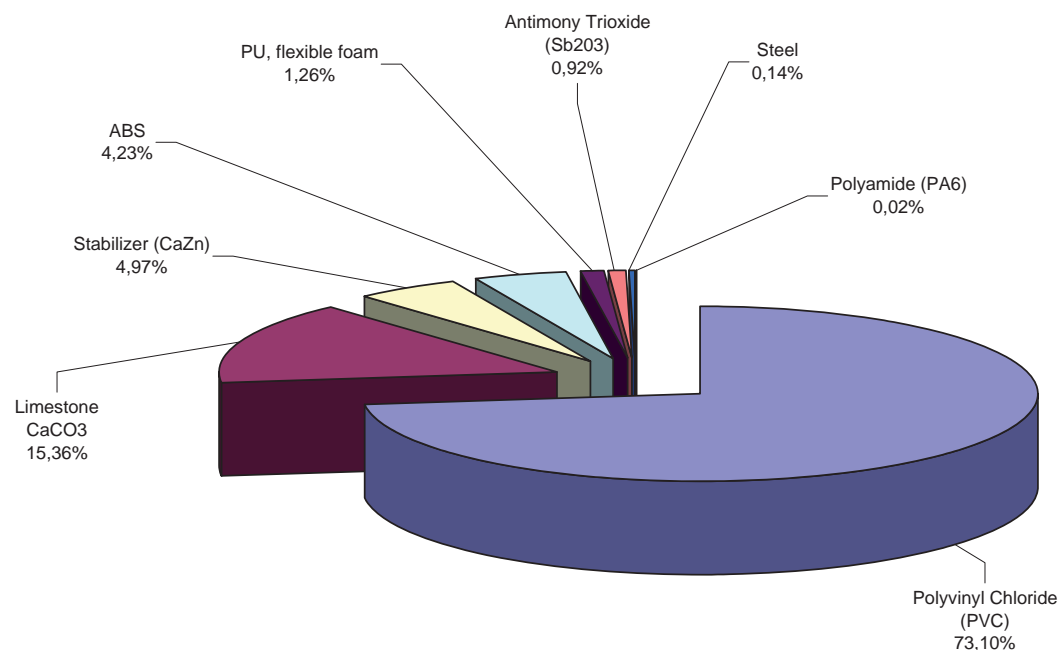
The environmental analysis was performed in conformity with ISO14040 "Environmental management: Life cycle assessment – Principle and framework".

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

Constituent materials

The mass of the range products spreads out between 1.5 g and 708 g packing excluded. It is 9.92 kg for the analysed installation consisting of 58 m of Mini-trunking, 6 accessories, 2 PVC boxes, 3 ABS boxes, 1 bounding tape (10 m) and 1 nail plug. However the final environmental indicators are given in reference to 1 meter.

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 MC-CTL Mini-trunking range do not contain any substances prohibited by the legislation that was in force* when the product or range was put on the market.

Products of this range are designed in conformity with the requirements of the ROHS directive (European Directive 2002/95/EC of 27 January 2003) and do not contain, or in the authorised proportions, lead, mercury, cadmium, chromium hexavalent, flame retardant (polybromobiphenyles PBB, polybromodiphenylthers PBDE) as mentioned in the Directive.

* according to the list available on request.

Manufacturing

The MC-CTL Mini-trunking 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 reduced, in compliance with the European Union's packaging directive.

The MC-CTL Mini-trunking packaging weight is 8.55 g. It consists of 7.69 g (90%) of cardboard, 0.69 g (8%) of polyethylene and 0.17 g of paper (2%).

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

Utilization

The products of the MC-CTL Mini-trunking range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).

The products involved in the application analysed are passive products which do not dissipate any significant heat in the installation.

End of life

At end of life, the products of the MC-CTL Mini-trunking range must be dismantled to facilitate the recovery of the various constituent materials.

The product is potentially recyclable.

Environmental impacts

The EIME (Environmental Impact and Management Explorer) software, 1.6 version, and its database, 5.4 version were used for the life cycle assessment (LCA).

The assumed service life of the product is 20 years and the European electrical power model was used.

The scope of the analysis was limited to a singular installation consisting of several components, which represent the grade point average of each product family.

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



Presentation of the environmental impacts

Environmental indicators	Short	Unit	Mini-trunking system (1,000 unit)			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	1.69559E ⁻¹⁴	1.6954E ⁻¹⁴	1.3275E ⁻¹⁸	0.00
Energy depletion	ED	MJ	42.49	41.57	0.91	0.00
Water depletion	WD	dm ³	234.55	234.26	0.29	0.00
Global warming	GW	g ~CO ₂	2062.41	2010.52	51.89	0.00
Ozone depletion	OD	g ~CFC-11	0.0002	0.0002	0.00003	0.00
Photochemical ozone creation	POC	g ~C ₂ H ₄	0.89	0.85	0.04	0.00
Air acidification	AA	g ~H ⁺	0.36	0.35	0.01	0.00
Hazardous waste production	HWP	kg	0.03	0.03	0.00	0.00

The life cycle analysis shows that the manufacturing phase (M) is the life cycle phase which has the greatest impact on the majority of environmental indicators. Schneider Electric places strong importance in the design process on the choice of materials to be used to optimize impacts on the environment.

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System approach

As the products of the range are designed in accordance with the ROHS Directive, they can be incorporated without any restriction within an assembly or an installation submitted to this Directive.

It is important to remember that the product environmental assessment must take into consideration the application or installation in which the product is included. The environmental impact values also depend on the conditions under which the product is used in the installation. These values (given in the "Presentation on the environmental impacts of the products" table) are only valid within the context specified and cannot be used directly to compile the environmental assessment of 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 this 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 m ³ .
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. This effect is quantified in gram equivalent CO ₂ .
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. This 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).
Air Acidification (AA)	The acid substances present in the atmosphere are carried by the rain. A high level of acidity in 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 ⁺ .
Hazardous Waste Production (HWP)	This indicator gives the quantity of waste, produced along the life cycle of the product (manufacturing, distribution, use, including production of energy), that requires special treatments. It is expressed in kg.



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

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