Multifix Plus

Product Environmental Profile

Flush mounted boxes

Schneider Electric

Product Environmental Profile - PEP

Product overview

The main function of the Multifix Plus flush mounted box range is to facilitate housing for different wiring devices in buildings.

The representative product used for the analysis is the single apparatus box 40 mm deep. Reference number ALB71320.

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.

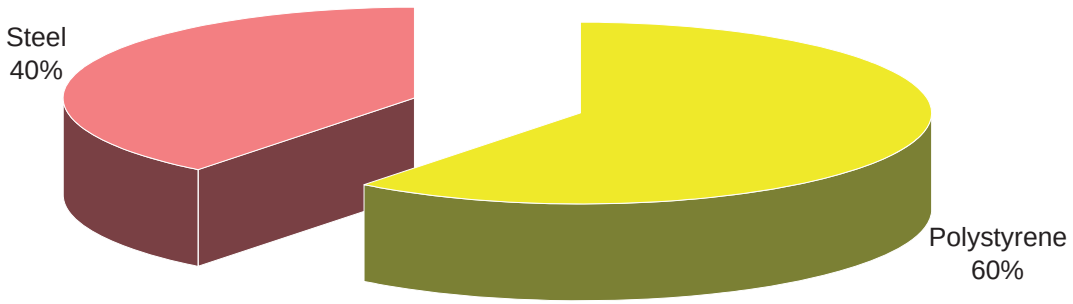
The environmental analysis was performed in conformity with ISO14040 “Environmental management: Life cycle assessment – Principle and framework”.

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 22 g and 86 g, packing excluded. It is 22 g for single box 40 mm (Ref no: ALB71320)

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 Multifix Plus flush mounted box 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 mentionned in the Directive.

* according to the list available on request.

Manufacturing

The Multifix Plus flush mounted box 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.

Multifix Plus flush mounted boxes ALB71320 are packed 50 pcs in a carton box that weights 105 g (each product use 2.1 g carton box). This consists of cardboard box.

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

Utilization

The products of the Multifix Plus flush mounted box product range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).

End of life

At end of life, the products in the Multifix Plus flush mounted box product range can either be dismantled or grinded to facilitate the recovery of the various constituent materials.

The product is recyclable.

Environmental impacts

The EIME (Environmental Impact and Management Explorer) software, version 1.6, and its database, version 5.0 were used for the life cycle assessment (LCA).

The scope of the analysis was limited to reference in the system, the most frequent box: ALB71320.

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	Flush mounted boxes (1 unit)			
			S = M + D + U	M	D	U
Raw material depletion	**RMD**	**Y-1**	**8.0067E^{-17}**	7.9897E^{-17}	1.706E^{-19}	0.00E^{+00}
Energy depletion	**ED**	**MJ**	**86.882**	86.77	1.1181E^{-1}	0.00E^{+00}
Water depletion	**WD**	**dm^3**	**22.96**	22.901	5.8906E^{-2}	0.00E^{+00}
Global warming	**GW**	**g ~CO_2**	**5.4316E^3**	5.4273E^3	4.384	0.00E^{+00}
Ozone depletion	**OD**	**g ~CFC-11**	**8.1373E^{-4}**	8.1159E^{-4}	2.1453E^{-6}	0.00E^{+00}
Photochemical ozone creation	**POC**	**g ~C_2H_4**	**2.209**	2.205	4.0371E^{-3}	0.00E^{+00}
Air acidification	**AA**	**g ~H^+**	**9.5092^{-1}**	9.5001E^{-1}	9.0559E^{-4}	0.00E^{+00}
Hazardous waste production	**HWP**	**kg**	**7.4314E^{-2}**	7.4311E^{-2}	3.2086E^{-6}	0.00E^{+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 . The environmental parameters of this phase have been optimized at the design stage. For example, the use of Lead free material.

The product benefits from optimizing material thickness to decrease material impact.

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System approach

As the product of the range are designed in accordance with the ROHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction within an assembly or an installation submitted to this Directive.

Please note that the environmental impacts of the product depend on the use and installation conditions of the product. Impacts values given above are only valid within the context specified and cannot be directly used to draw up 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 he annual reserves of this material.
Energy Depletion (ED)	This indicator gives the quantity of energy consumed, whether if 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_2H_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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