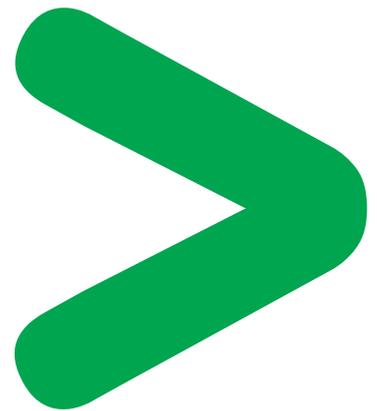


# Product Environmental Profile

Fupact INF63-160



# Product Environmental Profile - PEP

## Product Overview

The main function of the Fupact INF switch disconnecter fuses range is to protect and control electrical installations. Breaking currents up to 800 A up to 690 V AC.

This range consists of three-pole and four-pole switched or four-pole protected by fuses with operational voltage of 220 to 690 V AC. This document covers the following generic references in the INF range, INF63, INF100, INF125 and INF160.

The representative product used for the analysis is 49541 (INF160).

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

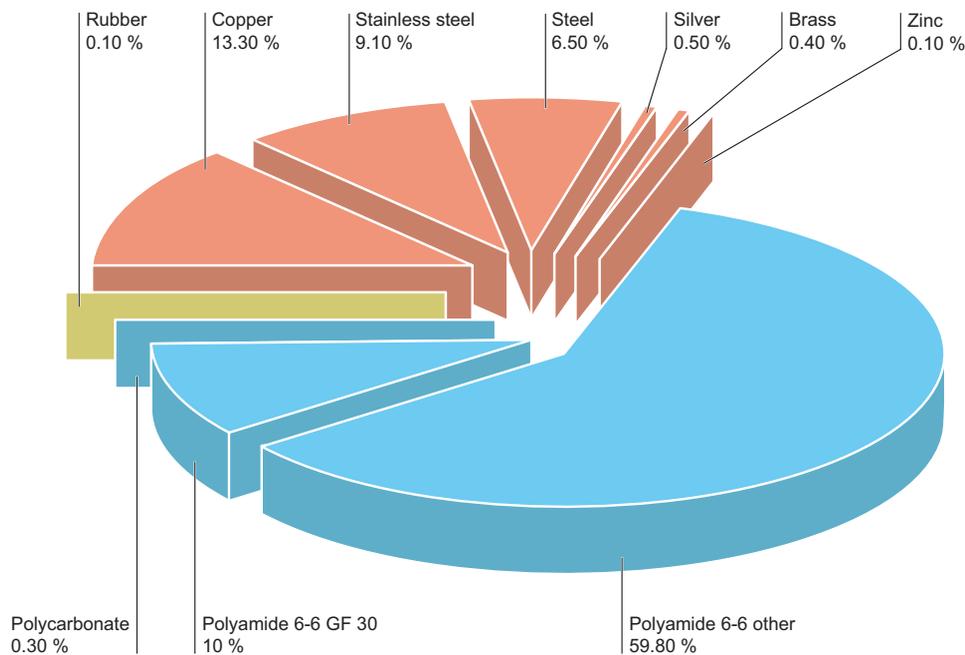
The environmental analysis was performed in conformity with ISO 14040.

This analysis takes into account the complete life cycle of the product.

## Constituent materials

The mass of the product range is from 700 g and 14400 g no including packaging. It is 1200 g for the 49541.

The constituent materials are distributed as follows:



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.

## Manufacturing

The Fupact INF63-160 product range is manufactured at a 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 49541 (INF160) packaging weight is 216.2 g. It consists of recycled paper (22.4 g) and cardboard (193.8 g). The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

# Product Environmental Profile - PEP

## Utilisation

The products of the Fupact INF63-160 range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on) in using phase.  
 The dissipated power depends on the conditions under which the product is implemented and used. This dissipated power spreads out between 3.5 W and 65 W for the Fupact INF63-160 product range.  
 It is 12 W for the representative product 49541.  
 This thermal dissipation represents less than 0.02 % of the power which passes through the product.

## End of life

The product range doesn't need any specific end of life special treatment. According to the countries practices this product can go through the usual end of life treatment processes.

## Environmental impacts

The life cycle assessment has been achieved with datas and rules from the product supplier: Materials and Manufacturing (M), Utilisation (U), End of life (E).  
 Modelisation hypothesis and impact results:  
 ■ The calculation has been done on 49541.  
 ■ Product packaging: is included.  
 ■ Installation components: no special components included.  
 ■ Scenario for the use phase: The calculations are based upon an estimated life-time of 10 years when operating 3650 hours per year (10 hours per day, 365 days, load factor 70 %).

### Presentation of the environmental impacts

Environmental indicators	Unit	Fupact INF63-160			
		S = M + U + E	M	U	E
Global Warming Potential	Kg≈CO <sub>2</sub>	3.72 10 <sup>2</sup>	20.88	3.50 10 <sup>2</sup>	1.35
Acidification	Kg≈SO <sub>2</sub>	2.31	12.65 10 <sup>-2</sup>	2.19	1 10 <sup>-4</sup>
Ozone Depletion Potential	Kg≈CFC-11	0	0	0	0
Photochemical Ozone Creation	Kg≈C <sub>2</sub> H <sub>4</sub>	8.12 10 <sup>-2</sup>	3.4 10 <sup>-3</sup>	7.75 10 <sup>-2</sup>	3 10 <sup>-4</sup>
Eutrophication	Kg≈PO <sub>4</sub>	10.48 10 <sup>-2</sup>	1.03 10 <sup>-2</sup>	9.45 10 <sup>-2</sup>	0

The life cycle assessment has been achieved with the Ecolab software.  
 The Utilisation phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

# Product Environmental Profile - PEP

## 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.

*N.B.: 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

### Global Warming Potential (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 kilogram equivalent of CO<sub>2</sub>.

### Ozone Depletion Potential (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 kilogram 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 kilogram equivalent of ethylene (C<sub>2</sub>H<sub>4</sub>).

### 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 quantified in kilogram SO<sub>2</sub><sup>\*</sup>.

### Eutrophication

Nutrients (mainly nitrogen and phosphorus) from sewage outfalls and fertilised farmland accelerate the growth of algae and other vegetation in water. The degradation of organic material consumes oxygen, resulting in oxygen deficiency and fish kill. Eutrophication translates the quantity of emission of substances into a common measure expressed as the oxygen required for the degradation of dead biomass.



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

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This document is based on ISO 14020 which relates to the general principles of environmental declarations and the ISO 14025 technical report relating to type III environmental declarations. Product Environmental Profiles Drafting Guide version 12.

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