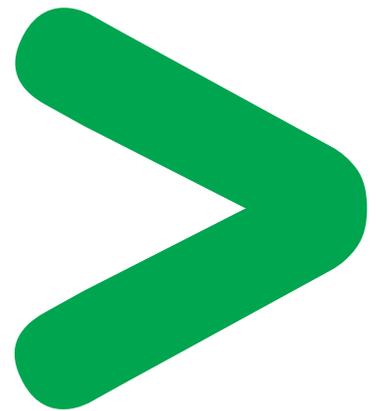


# Product Environmental Profile

SYSTEM M

Flush mounted  
Switch



# Product Environmental Profile - PEP

## Product Overview

The main function of the System M Switch flush-mounted product range is to offer a standard to high end flush mounted wiring device range to be mounted in standard CE 60 boxes. System M range inserts and centerplates can be combined with various kinds of outerframe designs with various materials.

This range consists of: Socket outlets, rocker and push button switches, antenna and data outlets, stand alone and system electronics.

The representative product used for the analysis is System M Switch flush-mounted Ref: MTN311500 & MTN437760 & MTN486160.

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.

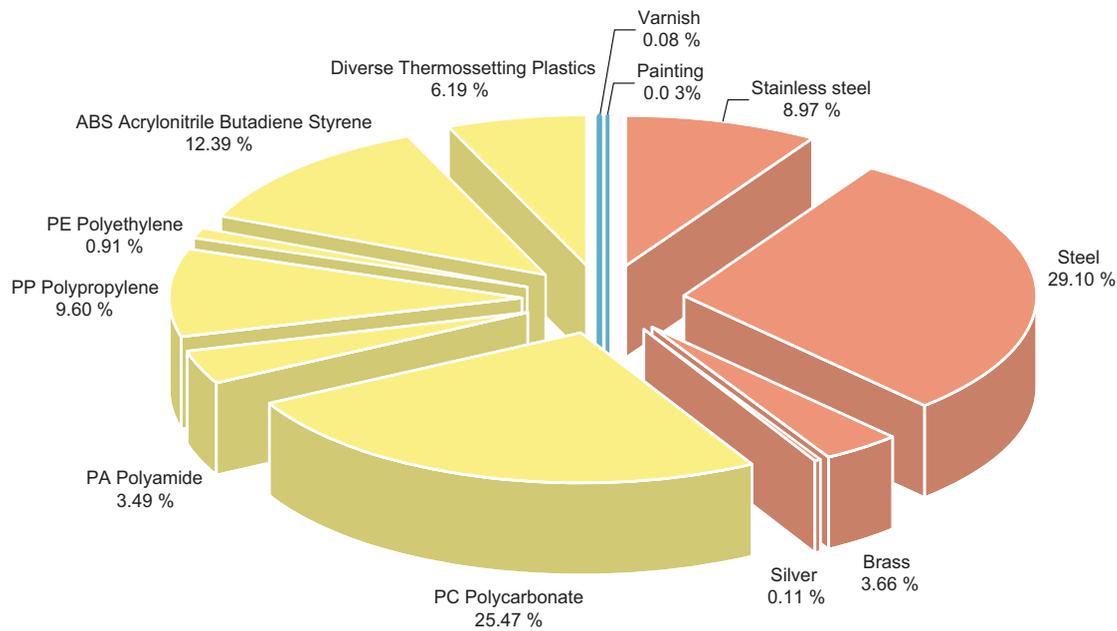
The environmental analysis was performed in conformity with ISO 14040 "Environmental management: Life cycle assessment – Principle and framework".

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

## Constituent materials

The mass of the range products spreads out between 161 g and 195 g packing excluded. It is 178 for the System M Switch flush-mounted Ref: MTN311500 & MTN437760 & MTN486160.

The constituent materials are distributed as follows :



## Substance assessment

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, polybromodiphenylthethers PBDE) as mentioned in the Directive.

## Manufacturing

The System M Switch flush-mounted 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 System M Switch flush-mounted packaging weight is 13,925 g. It consists of Cardboard (13.8 g), Paper (0.047 g), Polyéthylène (0.078 g). The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

# Product Environmental Profile - PEP

## Utilization

The products of the System M Switch flush-mounted range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).

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

This dissipated power is 0 W for the System M Switch flush-mounted product range.

For an utilisation rate of 100 %, it is 0 W for the referenced System M Switch flush-mounted Ref: MTN311500 & MTN437760 & MTN486160.

This thermal dissipation represents less than 0.01 % of the power which passes through the product.

## End of life

At end of life, the products in the System M Switch flush-mounted range can either be dismantled or grinded to facilitate the recovery of the various constituent materials.

The proportion of recyclable material is higher than 75 %.

This percentage includes the following materials: steel, alloys, copper, PC, ABS-PC, PA6, SAN, PP, other polymers, dismantable component, Urea formaldehyd Resin.

The end of life details appear on the product end-of-life recovery sheet.

## Environmental impacts

The EIME (Environmental Impact and Management Explorer) software, version 4.0, and its database, version V10 were used for the life cycle assessment (LCA).

The assumed service life of the product is 20 years with a utilisation rate of the installation of 100 % and the electrical power model used is OFF (ON, OFF, Stand by).

The scope of the analysis was limited to a System M Switch flush-mounted Ref: MTN311500 & MTN437760 & MTN486160.

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 (1.000 unit)			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	3.0642E <sup>-16</sup>	3.0472E <sup>-16</sup>	1.697E <sup>-18</sup>	0.00E <sup>+00</sup>
Energy depletion	ED	MJ	18.825	17.581	12.44E <sup>-01</sup>	0.00E <sup>+00</sup>
Water Depletion	WD	dm <sup>3</sup>	5.228	5.052	1.7517E <sup>-01</sup>	0.00E <sup>+00</sup>
Global warming	GW	g≈CO <sub>2</sub>	1.143E <sup>03</sup>	1.0649E <sup>03</sup>	78.079	0.00E <sup>+00</sup>
Ozone depletion	OD	g≈CFC-11	1.2384E <sup>-04</sup>	6.73E <sup>-05</sup>	5.6541E <sup>-05</sup>	0.00E <sup>+00</sup>
Photochemical ozone creation	POC	g≈C <sub>2</sub> H <sub>4</sub>	4.278E <sup>-01</sup>	3.5919E <sup>-01</sup>	6.8613E <sup>-02</sup>	0.00E <sup>+00</sup>
Air Acidification	AA	g≈H <sup>+</sup>	2.2542E <sup>-01</sup>	2.1178E <sup>-01</sup>	1.3635E <sup>-02</sup>	0.00E <sup>+00</sup>
Hazardous waste production	HWP	kg	1.264E <sup>-02</sup>	1.2613E <sup>-02</sup>	2.7114E <sup>-05</sup>	0.00E <sup>+00</sup>

The life cycle analysis shows that the Manufacturing phase (M, D or U phase) 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.

The environmental impacts variability between the upper part and the lower part of the range is less than 10 %.

# 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

### 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 dm<sup>3</sup>.

### 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<sub>2</sub>.

### 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<sub>2</sub>H<sub>4</sub>).

### 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<sup>+</sup>.

### 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.

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