

# ConneXium

## 24-port managed switch

### Product Environmental Profile



# Product Environmental Profile - PEP

## Product overview

The ConneXium family of managed switches. A single product reference number, TCSESM243F2CU0, has been chosen to represent of all the switches listed in this document because it is the worst-case example in terms of its environmental impact. This product, along with the other products listed below have been selected to be brand labeled for Schneider Electric. These products offer increased port counts and gigabit capability dependent on switch chosen. These new switches will be RoHS compliant beginning in July of 2006. At the time of release, 10 April 06, these products were manufactured using RoHS compliant components in a normal lead soldered process. This product has been designed using ECO-Design principles to assure it meets requirements while reducing its environmental impact over its life cycle.

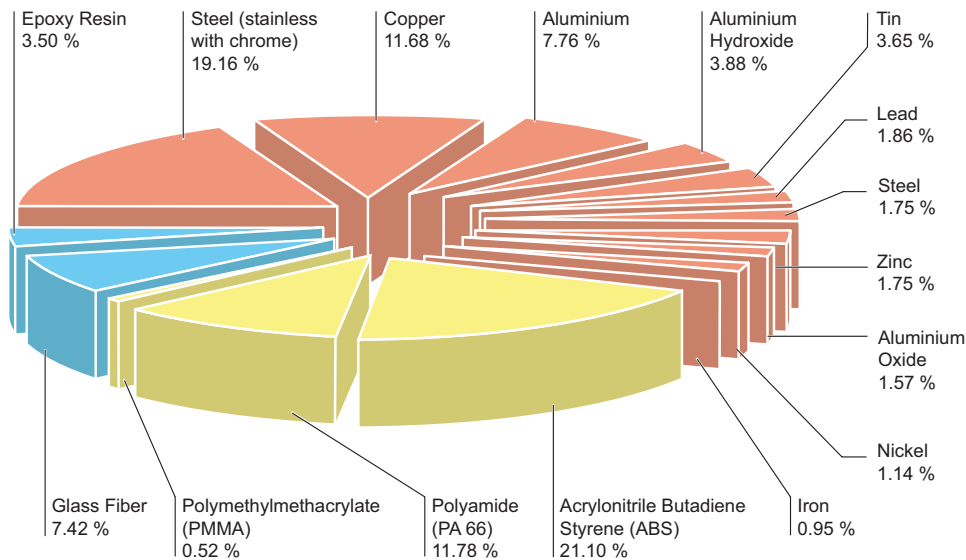
The following commercial reference numbers are covered by this document:

- TCSESM043F1CS0
- TCSESM043F1CU0
- TCSESM043F23F0
- TCSESM043F2CS0
- TCSESM043F2CU0
- TCSESM083F1CS0
- TCSESM083F1CU0
- TCSESM083F23F0
- TCSESM083F2CS0
- TCSESM083F2CU0
- TCSESM083F2CX0
- TCSESM103F23G0
- TCSESM103F2LG0
- TCSESM163F23F0
- TCSESM163F2CU0
- TCSESM243F2CU0

## Constituent materials

This product does not contain batteries or any substances banned by regulation in force at the time of its commercialization except as noted in the product description.

The materials used in the Manufacturing (M) of this product can be broken down as follows:



## Fabrication

A Schneider partner located in Germany manufactured this product. This manufacturing site has an Environmental Management System in accordance with ISO 14001.

## Distribution

The distribution is ensured by distribution centers in Europe and America, through our subsidiaries in each country. Packaging is designed to facilitate the use of standardized containers.

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## Utilization

This product was designed to optimize energy consumption while in use.  
This product is soundless and produces no waste in use

## End of life

The ECO-Design program at Schneider Electric has among its objectives, the recycling optimization of its products.  
The proportion of recyclable materials in this product is approximately 85 %.  
This percentage is calculated using databases based on national averages, and on existing recycling networks

## Environmental impacts



The environmental impacts resulting from the product's life cycle were calculated by Environmental Information and Management Explorer (EIME) software for a product use life of 10 years.  
They take into account the Manufacturing (M), Distribution (D), and Usage (U) phases.

### Presentation of the product's environmental impacts:

Indicators	Unit	TCSESM243F2CU0 (1.000 unit)			
		S = M + D + U	M	D	U
Raw Material Depletion	Y-1	1.82 10 <sup>-13</sup>	1.76 10 <sup>-13</sup>	1.74 10 <sup>-18</sup>	5.92 10 <sup>-15</sup>
Energy Depletion	MJ	7.25 10 <sup>3</sup>	1.25 10 <sup>3</sup>	1.25	6.00 10 <sup>3</sup>
Water Depletion	dm <sup>3</sup>	1.59 10 <sup>3</sup>	7.06 10 <sup>2</sup>	1.21 10 <sup>-1</sup>	8.83 10 <sup>2</sup>
Global Warming	g≈CO <sub>2</sub>	4.08 10 <sup>5</sup>	7.83 10 <sup>4</sup>	1.09 10 <sup>2</sup>	3.29 10 <sup>5</sup>
Ozone Depletion	g≈CFC-11	4.38 10 <sup>-2</sup>	9.84 10 <sup>-3</sup>	7.14 10 <sup>-5</sup>	3.39 10 <sup>-2</sup>
Air Toxicity	m <sup>3</sup>	7.99 10 <sup>7</sup>	1.79 10 <sup>7</sup>	4.03 10 <sup>4</sup>	6.20 10 <sup>7</sup>
Photochemical Ozone Creation	g≈C <sub>2</sub> H <sub>4</sub>	1.64 10 <sup>2</sup>	51.1	1.36 10 <sup>-1</sup>	1.13 10 <sup>2</sup>
Air Acidification	g≈H <sup>+</sup>	65.2	14.4	2.59 10 <sup>-2</sup>	50.8
Water Toxicity	dm <sup>3</sup>	8.43 10 <sup>4</sup>	1.67 10 <sup>4</sup>	12.5	6.76 10 <sup>4</sup>
Water Eutrophication	g≈PO <sup>4</sup>	13.5	12.3	1.83 10 <sup>-3</sup>	11.5
Hazardous Waste Production	kg	5.83	1.31	3.86 10 <sup>-5</sup>	4.52

The life cycle analysis has shown that the manufacturing phase (M) is the phase that has the most impact on all the environmental indicators. Schneider Electric places strong importance in the design process on the choice of materials it uses and on the power consumption of the product so as to optimize impacts on the environment.

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## System approach

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 of the environmental impacts of the product" 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 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 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 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 methane (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.



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

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