



Cylindrical Fuse 10A (NF)



The commitments of Socomec to respect the environment

As part of its environmental policy, Socomec is committed to:

- Develop innovating solutions primarily focused on energy efficiency to help its customer in the design of less energy-consuming, better managed and ecofriendly installations.
- Diversify its product offer in the renewable energy and energy efficiency sectors,
- Minimize the environmental impact of its industrial activities through the progressive ISO 14001 certification of its production sites,
- Minimize at the preliminary design stage the environmental impacts of its products taking into account their whole life cycle,
- Provide his customers with reliable data on the environmental performance of the products.

Socomec is member of :



Environment and sustainable development commissions

■ Representative product

Reference product

The representative product is the Cylindrical fuse 10A with sales reference 60120010.

Functional unit

Protecting electrical circuits from current surges and guaranteeing the electrical safety of the system for 20 years.

■ Material and substances

Declaration of the constitutive materials according to IEC 62474

Total mass of the reference product (including packaging): 0.0115 kg (packaging:0.004 kg).

The packaging is composed of cardboard, plastic film, and a paper manual.

For the Cylindrical fuse 10A

| Metals, % weight | | Plastics, % weight | | Others, % weight | |
|-------------------------------------|-------|-----------------------|-------|-------------------|-------|
| Copper and its alloys | 17,4% | Others thermoplastics | <0,1% | Others Inorganics | 45,7% |
| Zinc and its alloys | 1,6% | | | Others Organics | 35,3% |
| Other non-ferrous metals and alloys | <0,1% | | | | |

The estimated content of recycled materials is 31.4%, based on a Life Cycle Analysis model with EIME software which is a software distributed by CODDE, a subsidiary of Bureau Veritas.

Substances management

Socomec is leading a program to limit the use of hazardous substances in the design of new products and to monitor the presence of substances of concern in its supplies to anticipate future use restrictions.



ROHS directive 2011/65/EC compliance: although the majority of Socomec products are outside the scope of the ROHS directives, a ROHS compliance process has been in progress on a voluntary basis since 2006. Product references covered by this PEP meet the requirements of the RoHS Directive on the restriction of substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ethers (PBDEs).



REACH 1907/2006 regulation: to the best of our knowledge at the publication date of this document, none of the substance of the candidate list to authorization (SVHC) has been found in the references covered by this PEP.

■ Manufacturing

The products covered by this PEP are manufactured on a site where impacts on the environment are reduced by optimizing its energy consumption and by practicing a rigorous waste management.

Moreover, Socomec is committed to the progressive ISO 14001 certification of its manufacturing sites.

■ Distribution

As part of its distribution policy aiming to respect the environment, Socomec is in favor of groupage transports and ISO14001 certified logistic partners.



The packaging complies with Directive 94/62/EC. The sizing of the packaging has been optimized to ensure the best possible protection of the product at the lowest possible volume in order to reduce the impact of the transport stage on the environment.

Packaging design solutions favors mono-material recyclable cardboard without coloring or bleaching. The wedging of the packaged product is made of recycled cardboard, no polystyrene is used.

■ Installation

The installation stage consists in connecting the product to the existing electrical installation. The installation does not generate any significant impacts on the environment, except impacts from packaging waste.

■ Use phase

Consumption scenario

Use phase scenario: European energy mix

| Mode | Power consumption of the reference product (W) | Load rate (%) | Time distribution (%) |
|--------|--|---------------|-----------------------|
| Active | 1W | 100% | 100% |

Product power consumption during its total lifespan (20 years): 175,2 kWh

Care and maintenance

The product does not require any maintenance under normal conditions of use.

Consumables

The product does not require consumables.

■ End of life

Recovery potential of the product according to IEC TR 62635

The total potential value of this product is 39.7%.
This potential value takes into account the material recycling and energy recovery.

■ Environmental impacts

Calculation methodology: life cycle assessment (LCA)



The calculation of the impacts on the environment was made using a life cycle assessment methodology in accordance with the ISO 14040 requirements and with PEP eco passport product category rules. For more details follow the link: www.pep-ecopassport.org
This study was carried out with the version 5.3 of the software EIME with version database CODDE_2018_03. The software is distributed by CODDE which is a subsidiary of Bureau Veritas.

This product follows the rules defined in the PSR-0005-ed2-FR-2016 03 29.

The whole life cycle has been taken into account:

| Step | Geographical representativeness | Scenario |
|--------------------------|--|---|
| Manufacturing (M) | Production of electronic components : Asia Production of other components and packaging : Europe Assembly : France | From the raw material extraction to the last Socomec logistic platform, including packaging |
| Distribution (D) | Distribution scenario : Europe | From the last Socomec logistic platform to the final customer |
| Installation (I) | Transport and treatment of packaging wastes : Local | Local road transport of generated wastes to the treatment site, and landfilling |
| Use phase (U) | Energy mix : Europe | Power consumption required during 20 years and maintenance according to consumption scenario described on page 3. |
| End Of Life (EOL) | Transport and treatment : Local | Road transport from the final customer to the treatment sites. End of life treatment. |

Environmental impacts of the Cylindrical fuse 10A

The following impacts have been calculated to best represent geographically and technologically each step of the life cycle.

| Indicators | Unit | Total impact | M | D | I | U | EOL |
|---|---|--------------|----------|----------|----------|----------|----------|
| Contribution to global warming | kg CO ₂ eq. | 2,01E+01 | 2,55E-02 | 6,01E-03 | 0* | 2,00E+01 | 0* |
| Contribution to ozone layer depletion | kg CFC11 eq. | 1,51E-06 | 2,72E-09 | 0* | 0* | 1,51E-06 | 0* |
| Contribution to the soil and water acidification | kg SO ₂ eq. | 2,31E-02 | 8,62E-05 | 2,70E-05 | 3,71E-06 | 2,30E-02 | 6,78E-06 |
| Contribution to water eutrophication | kg (PO ₄) ³⁻ eq. | 6,40E-03 | 1,80E-05 | 6,21E-06 | 2,56E-06 | 6,37E-03 | 4,68E-06 |
| Contribution to photochemical ozone formation | kg C ₂ H ₄ eq. | 2,48E-03 | 5,39E-06 | 1,92E-06 | 2,77E-07 | 2,47E-03 | 5,06E-07 |
| Contribution to the depletion of abiotic resources - elements | kg Sb eq. | 8,69E-06 | 2,81E-06 | 0* | 0* | 5,88E-06 | 0* |
| Contribution to the depletion of abiotic resources - fossil fuels | MJ | 2,77E+02 | 3,23E-01 | 8,44E-02 | 0* | 2,76E+02 | 0* |

PRODUCT ENVIRONMENTAL PROFILE

| | | | | | | | |
|---|---------------------|----------|----------|----------|----------|----------|----------|
| Contribution to water pollution | m ³ | 1,10E+03 | 1,07E+00 | 9,88E-01 | 1,23E-01 | 1,10E+03 | 2,24E-01 |
| Contribution to air pollution | m ³ | 1,50E+03 | 1,22E+01 | 2,46E-01 | 0* | 1,49E+03 | 0* |
| Use of renewable primary energy (excl. raw materials) | MJ | 5,31E-01 | 1,41E-01 | 1,13E-04 | 1,43E-04 | 3,90E-01 | 2,61E-04 |
| Use of renewable primary energy used as raw materials | MJ | 1,75E-03 | 1,75E-03 | 0* | 0* | 0* | 0* |
| Total use of renewable primary energy resources | MJ | 5,33E-01 | 1,43E-01 | 1,13E-04 | 1,43E-04 | 3,90E-01 | 2,61E-04 |
| Use of non-renewable primary energy (excl. raw materials) | MJ | 2,45E+03 | 3,09E-01 | 0* | 0* | 2,45E+03 | 0* |
| Use of non-renewable primary energy used as raw materials | MJ | 1,36E-02 | 1,36E-02 | 0* | 0* | 0* | 0* |
| Total use of non-renewable primary energy resources | MJ | 2,45E+03 | 3,23E-01 | 0* | 0* | 2,45E+03 | 0* |
| Use of secondary materials | kg | 4,14E-03 | 4,14E-03 | 0* | 0* | 0* | 0* |
| Use of renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Use of non-renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Net use of fresh water | m ³ | 3,77E-01 | 4,83E-04 | 0* | 0* | 3,77E-01 | 0* |
| Hazardous waste disposed of | kg | 2,95E+01 | 2,41E-01 | 0* | 0* | 2,93E+01 | 0* |
| Non-hazardous waste disposed of | kg | 1,97E+00 | 3,29E-02 | 2,14E-04 | 4,60E-03 | 1,93E+00 | 8,41E-03 |
| Radioactive waste disposed of | kg | 2,00E-02 | 8,58E-06 | 0* | 0* | 2,00E-02 | 0* |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for recycling | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for energy recovery | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Exported energy | MJ by energy vector | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Total use of primary energy during the life cycle | MJ | 2,45E+03 | 4,66E-01 | 0* | 0* | 2,45E+03 | 0* |

NB : 0* means that this impact either represents less than 0.01% of the total life cycle of the reference flow, or has no impact (in the case where the total impact is zero).

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