Product Environmental Profile
Weather Protected Switch Socket
Product overview
The main purpose of the Weather Protected Switch Socket is to offer chemical resistant properties which can be used in the strong chemicals environments. This range consists of: WSC SERIES. The representative product used for the analysis is WSC227/2-RG, Weather Protected Double Power Outlet, IP 53, 10A, 250V. The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology. The environmental analysis was performed in conformity with ISO 14040.

Constituent materials
The mass of the product range is from 128 g and 4200 g including packaging. It is 280 g for the WSC227/2-RG, Weather Protected Double Power Outlet, IP 53, 10A, 250V. 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 only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive.


Manufacturing
The Weather Protected Switch Socket 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 optimized, based on the European Union’s packaging directive. The Weather Protected Switch Socket packaging weight is 28.24 g. It consists of 27.39 cardboard and 0.85 PE polybag.
Use
The products of the Weather Protected Switch Socket range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use.

Dissipated power depends on the conditions under which the product is implemented and used. This dissipated power is between 0.01 W and 0.06 W for the Weather Protected Switch Socket product range. It is 0.011 W for the referenced WSC227/2-RG, Weather Protected Double Power Outlet, IP 53, 10A, 250V.

End of life
At end of life, the products in the Weather Protected Switch Socket have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

Recyclability potential of the products has been evaluated using the “ECO DEEE recyclability and recoverability calculation method” (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

Environmental impacts
Life cycle assessment has been performed on the following life cycle phases: Materials and Manufacturing (M), Distribution (D), Installation (I), Use (U), and End of life (E).

Modeling hypothesis and method:
- the calculation was performed on the WSC227/2-RG, Weather Protected Double Power Outlet, IP 53, 10A, 250V
- product packaging: is included
- installation components: no special components included.
- scenario for the Use phase: this product range is included in the Category 1, Energy Passing Product: (assumed service life is 20 years and use scenario is: 0.011 W in 30% active mode and 0 W in 70% off mode.
- geographical representative area for the assessment is China and the electrical power model used for calculation is Electricity China model.

End of life impacts are based on a worst case transport distance to the recycling plant (1000km)

presentation of the product environmental impacts

<table>
<thead>
<tr>
<th>Environmental indicators</th>
<th>Unit</th>
<th>WSC227/2-RG, Weather Protected Double Power Outlet, IP 53, 10A, 250V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S = M + D + I + U + E</td>
<td>M</td>
</tr>
<tr>
<td>Raw Material Depletion</td>
<td>Y-1</td>
<td>8.01E-16</td>
</tr>
<tr>
<td>Energy Depletion</td>
<td>MJ</td>
<td>4.03E+01</td>
</tr>
<tr>
<td>Water depletion</td>
<td>dm³</td>
<td>1.43E+01</td>
</tr>
<tr>
<td>Global Warming</td>
<td>g-CO₂</td>
<td>2.28E+03</td>
</tr>
<tr>
<td>Ozone Depletion</td>
<td>g-CFC-11</td>
<td>2.57E-04</td>
</tr>
<tr>
<td>Air Toxicity</td>
<td>m³</td>
<td>7.38E+05</td>
</tr>
<tr>
<td>Photochemical Ozone Creation</td>
<td>g-C₂H₅</td>
<td>1.25E+00</td>
</tr>
<tr>
<td>Air acidification</td>
<td>g-H⁺</td>
<td>4.70E-01</td>
</tr>
<tr>
<td>Water Toxicity</td>
<td>dm³</td>
<td>7.63E+02</td>
</tr>
<tr>
<td>Water Eutrophication</td>
<td>g-PO₄</td>
<td>3.10E-01</td>
</tr>
<tr>
<td>Hazardous waste production</td>
<td>kg</td>
<td>4.00E-02</td>
</tr>
</tbody>
</table>

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 4, and with its database version 11.

The Manufacturing phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range: Depending on the impact analysis, the environmental indicators of other products in this family may be proportional extrapolated by the weight.

System approach
As the products 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 in an assembly or an installation subject to this Directive.

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an 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 dm³.

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 CO₂.

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.

Air Toxicity (AT) This indicator represents the air toxicity in a human environment. It takes into account the usually accepted concentrations for several gases in the air and the quantity of gas released over the life cycle. The indication given corresponds to the air volume needed to dilute these gases down to acceptable concentrations.

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 (C₂H₄).

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⁺.

Water Toxicity (WT) This indicator represents the water toxicity. It takes into account the usually accepted concentrations for several substances in water and the quantity of substances released over the life cycle. The indication given corresponds to the water volume needed to dilute these substances down to acceptable concentrations.

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.

PEP achieved with Schneider-Electric TT01 V5 and TT02 V15 procedures in compliance with ISO14040 series standards

PEP established according to PEPecopassport PCR: PEP-PCR-ed 2-EN-2011 12 09 rules