

# Product Environmental Profile

**Mallia™**  
**SP Switch - 1 Gang - 1 Way - 10 AX - White**



## LEGRAND'S ENVIRONMENTAL COMMITMENTS

• **Incorporate environmental management into our industrial sites**

Of all Legrand sites worldwide, over 80% are ISO 14001-certified (sites belonging to the Group for more than five years).

• **Involve the environment in product design**

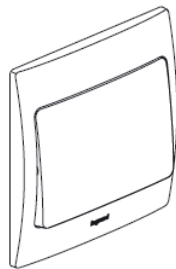
Provide our customers with all relevant information (composition, consumption, end of life, etc.).  
Reduce the environmental impact of products over their whole life cycle.

• **Offer our customers environmentally friendly solutions**

Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations



## REFERENCE PRODUCT

<b>Function</b>	Allow the making and breaking, in air, of a 250 V low voltage circuit, according to the standards SS 227-1 and BS EN 60669-1 and MS IEC 60669-1, with a non-continuous operation (30% of time) during 20 years (household or similar purposes) at 30% of rated load, with rated load not exceeding 10 AX.
<b>Reference Product</b>	
	Cat. No 2 810 01
	SP switch - 1 gang - 1 way - 10 AX - White

The company reserves the right to change specifications and designs without notice. All illustrations, descriptions, dimensions and weights in the document are for guidance and cannot be held binding on the company.



## PRODUCTS CONCERNED

The environmental data are representative of the following products:

Catalogue Numbers (mechanisms)	Catalogue Numbers (plates)	
<ul style="list-style-type: none"> <li>• 2 810 01</li> <li>• 2 810 03</li> <li>• 2 810 05</li> <li>• 2 830 01</li> <li>• 2 830 03</li> <li>• 2 830 05</li> <li>• 2 832 01</li> <li>• 2 832 03</li> <li>• 2 832 05</li> <li>• 2 834 01</li> <li>• 2 834 03</li> <li>• 2 834 05</li> </ul>	<ul style="list-style-type: none"> <li>• 2 819 05</li> <li>• 2 819 50</li> <li>• 2 819 55</li> </ul>	

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## ■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It does not contain substances covered by the RoHS Directive (2002/95/EC and its revision 2011/65/EC). It contains none of the 138 substances in the candidate list of the REACH regulation dated 19/12/2012.

<b>Total weight of Reference Product</b>		<b>71 g (with unit packaging)</b>			
Plastics as % of weight		Metals as % of weight		Packaging as % of weight	
PC	<b>60.9 %</b>	Copper alloys	<b>9.6 %</b>	PE	<b>10.5 %</b>
PP	<b>8.5 %</b>	Steel	<b>8.3 %</b>	PP	<b>2.1 %</b>
PA	<b>&lt; 0.1 %</b>	Silver alloys	<b>0.1 %</b>		
Other plastic	<b>&lt; 0.1 %</b>				
<b>Total plastics</b>	<b>69.4 %</b>	<b>Total metals</b>	<b>18.0 %</b>	<b>Total packaging</b>	<b>12.6 %</b>

Estimated recycled material content: 16 % of weight.



## ■ MANUFACTURE

This Reference Product comes from a site that has received ISO 14001 certification.



## ■ DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 1235 km, by road from our warehouse to the local point of distribution into the market in Middle East.

Packaging is compliant with applicable regulation. At the packaging end of life, its recyclability rate is of 83% (in % of packaging weight).



## ■ INSTALLATION

Installation components not delivered with the product are not taken into account.



## ■ USE

### ■ Servicing and maintenance:

Under normal conditions of use, this type of product requires no servicing or maintenance.

### ■ Consumable:

No consumables are necessary to use this type of product.

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## END OF LIFE

Development teams integrate product end-of-life factors in the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse.

**• Recyclability rate:**

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 94 %. This value is based on data collected from a technological channel operating on an industrial basis. It does not prejudge the effective use of the channel for electrical and electronic products at the end of their life.

Separated into:

- plastic materials (excluding packaging): 66 %
- metal materials (excluding packaging): 18 %
- packaging (all types of materials): 10 %



## ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end-of-life. It is representative from products marketed and used in Middle East.

The following modelling elements were taken into account:

<b>Manufacture</b>	Unit packaging taken into account. As required by the «PEP ecopassport» programme all transport for the manufacturing of the Reference Product, including materials and components, has been taken in account
<b>Distribution</b>	Transport between the last Group distribution centre and an average delivery to the sales area.
<b>Installation</b>	Installation components not delivered with the product are not taken into account.
<b>Use</b>	<ul style="list-style-type: none"> <li>• Under normal conditions of use, this type of product requires no servicing or maintenance.</li> <li>• No consumables are necessary to use this type of product</li> <li>• Product category: passive product.</li> <li>• Use scenario: no continuous operation for 20 years at 30 % of rated load, during 30 % of the time. This modelling duration does not constitute a minimum durability requirement.</li> <li>• Electricity (Syria) - 2009.</li> </ul>
<b>End of life</b>	In view of the data available on the date of creation of the document, and in accordance with the requirements of the PCR of the «PEP ecopassport» programme, transport of the Reference Product by road only once, over a distance of 1000 km, to a processing site at end of life was counted.
<b>Software used</b>	EIME V5 and its database «Legrand-2012-10-31 version 3» made from the data base «CODDE-2012-07».

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## ENVIRONMENTAL IMPACTS (continued)

		Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Mandatory indicators	Global warming	2.66E+03	g-CO <sub>2</sub> eq.	5.23E+02	20%	1.04E+01	< 1%	0.00E+00	0%	2.13E+03	80%	3.55E+00	< 1%
	Ozone depletion	1.10E-03	g-CFC-11 eq.	3.92E-05	4%	7.35E-06	< 1%	0.00E+00	0%	1.05E-03	96%	6.73E-09	< 1%
	Water eutrophication	8.85E-02	g-PO <sub>4</sub> <sup>3-</sup> eq.	7.08E-02	80%	1.73E-04	< 1%	0.00E+00	0%	1.76E-02	20%	6.60E-06	< 1%
	Photochemical ozone creation	1.72E+00	g-C <sub>2</sub> H <sub>4</sub> eq.	1.82E-01	11%	9.02E-03	< 1%	0.00E+00	0%	1.53E+00	89%	7.92E-04	< 1%
	Air acidification	7.87E-01	g-H+ eq.	8.46E-02	11%	1.32E-03	< 1%	0.00E+00	0%	7.01E-01	89%	6.60E-04	< 1%
	Total energy depletion	3.94E+01	MJ	8.35E+00	21%	1.31E-01	< 1%	0.00E+00	0%	3.09E+01	78%	5.01E-02	< 1%
	Water depletion	4.47E+00	dm <sup>3</sup>	2.40E+00	54%	1.25E-02	< 1%	0.00E+00	0%	2.07E+00	46%	3.69E-04	< 1%
Optional indicators	Raw material depletion	6.38E-15	année <sup>-1</sup>	6.31E-15	99%	1.79E-19	< 1%	0.00E+00	0%	6.69E-17	1%	7.26E-20	< 1%
	Air toxicity	1.01E+06	m <sup>3</sup>	1.54E+05	15%	1.96E+03	< 1%	0.00E+00	0%	8.55E+05	84%	9.81E+02	< 1%
	Water toxicity	6.22E-01	m <sup>3</sup>	2.81E-01	45%	1.45E-03	< 1%	0.00E+00	0%	3.38E-01	54%	1.52E-03	< 1%
	Hazardous waste production	8.74E-03	kg	7.13E-03	82%	3.87E-06	< 1%	0.00E+00	0%	1.60E-03	18%	4.40E-09	< 1%

The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.

The environmental impacts of the 2 and 3 gang products are obtained by multiplying those of the Reference Product by the following coefficients:

Products	Manufacturing		Distribution	Installation	Use	End of Life
	Raw material Depletion indicator	The others indicators				
2 gang	2.0	1.4	1.2	-	2	1.2
3 gang	3.0	1.8	1.4	-	3	1.4

The environmental impacts of the painted version products are obtained by adding to the first rule a 1.3 coefficient on the Manufacturing phase indicators.

The values of these impacts are valid for the context specified in this document. They must not be used directly to draw up the environmental balance sheet for the installation.

Registration number: LGRP-2014-107-V1-EN	Drafting rule → PCR: PEP-PCR-ed 2.1-FR-2012 12 11 → PSR: PSR-0005-ed1-FR-2012 12 11
Authorisation number of checker: VH23	Programme information: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 06-2015	Validity period: 4 years
Independent verification of the declaration and data, in accordance with ISO 14025: 2006 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/>	
In accordance with ISO 14025: 2006 Type III environmental declaration	
The critical review of the PCR was conducted by a panel of experts chaired by J. Chevalier (CSTB)	
The elements of the present PEP cannot be compared with elements from another programme	

