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Product Environmental Profile

PIAL | Zeffia - Complete Switch 10A 250 V~

LEGRAND'S ENVIRONMENTAL COMMITMENTS

▪ **Incorporate environmental management into our industrial sites**
Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).

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

▪ **Involve the environment in product design and provide informations in compliance with ISO 14025**
Reduce the environmental impact of products over their whole life cycle.
Provide our customers with all relevant information (composition, consumption, end of life, etc.).

REFERENCE PRODUCT

Function	Establish, support and interrupt the rated current 10A and rated voltage 250V~, in the Household/Commercial application areas, according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Reference Product	
	Cat.No 680100
	Complete 1 way Switch 10A 250V~ 4x2 screw terminals - 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 is representative of the following products:

Catalogue Numbers		
Complete product	**Mechanism only**	**Plates with Frame**
▪ 680100 / 680100CZ / 680100PT	▪ 680150	▪ 680181
▪ 680101 / 680101CZ / 680101PT	▪ 680150CZ	▪ 680181CZ
▪ 680102 / 680102CZ / 680102PT	▪ 680150PT	▪ 680181PT
▪ 680103 / 680103CZ / 680103PT	▪ 680151	▪ 680182
▪ 680104 / 680104CZ / 680104PT	▪ 680151CZ	▪ 680182CZ
▪ 680105 / 680105CZ / 680105PT	▪ 680151PT	▪ 680182PT
▪ 680106 / 680106CZ / 680106PT		▪ 680183
▪ 680107 / 680107CZ / 680107PT		▪ 680183CZ
▪ 680108 / 680108CZ / 680108PT		▪ 680183PT

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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 respects the restrictions on use of hazardous substances as defined in the RoHS directive 2011/65/EU amended by delegated directive (EU) 2015/863, and its amendment 2017/2102/EU.

Total weight of Reference Product	**0.08 kg** (all packaging included)

Product alone weight 0.05 kg					
Plastics as % of weight		**Metals as % of weight**		**Other as % of weight**	
HIPS	**45.2%**	Steel	**7.4 %**		
PP	**5.1%**	Copper and copper alloys	**2.1 %**		
PC	**4.9%**	Silver alloys	**<0.1 %**		
		Others metals	**<0.1 %**		

Packaging (alone) : 0.03 kg					
PE	**3.2 %**			Wood	**18.5 %**
				Cardboard	**13.6 %**
				Paper	**<0.1 %**

Total plastics : 0.05 kg	**58.4 %**	**Total metals : 0.01 kg**	**9.5 %**	**Total others : 0.03 kg**	**32.1 %**

At the date of edition of this document, the content of recycled material(s) is :

- Product alone (excluding packaging): 16% by mass
- Packaging only: 35% by mass

MANUFACTURE

This Reference Product comes from sites that have received ISO14001 certification.
The final assembly site is located at Caxias do Sul/RS - Brazil.

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 890Km by road from our warehouse to the local point of distribution into the market Brazil.

Packaging is compliant with applicable regulation.

INSTALLATION

For the installation of the product, only standard tools are needed.

USE

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

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END OF LIFE

The product end of life factors are taken into account during 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.

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 of products marketed and used in Brazil.
The datasets collected in this PEP are representative of the year 2025.

For each phase, the following modelling elements were taken in account:

System Limit	**Manufacture A1-A3**	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
	Distribution A4	Transport between the last Group distribution centre and an average delivery point in the sales area.
	Installation A5	The end of life of the packaging.
	Use B1-B7	▪ Product category: Switches Wall-mounted ▪ Use scenario: Use scenario : non-continuous operation for 20 years at 10% of rated load, during 30% of the time. This modelling duration does not constitute a minimum durability requirement. ▪ Energy model: Electricity Mix Low voltage Brazil BR - 2022.
	End of life C1-C4	Choice of end-of-life by default model for PCR-ed4-EN-2021 09 06.
D Module		Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and burdens beyond the boundaries of the system, and are not to be included in the life cycle totals.
Software and database used		The set of indicators used is Indicators for PEF EF 3.1 (compliant: PEP ed.4, EN15804+A2) v2.0 EIME V6 and its database 2025-04-15.

Unless otherwise indicated the modelling energetic mix are those integrated in the data modules used from the aforementioned database.

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ENVIRONMENTAL IMPACTS

	Total Life Cycle		Manufacturing	Distribution	Installation	Use[1]			End of Life	Module D
			A1-A3	A4	A5	Total B1-B7	B2	B6	C1-C4	
Climate change - total	**3.27E-01**	**kg CO_2 eq.**	1.57E-01	3.00E-03	5.15E-02	8.62E-02	0.00E+00	8.62E-02	2.93E-02	-2.15E-02
Climate change - fossil fuels	**3.22E-01**	**kg CO_2 eq.**	1.94E-01	3.00E-03	1.08E-02	8.48E-02	0.00E+00	8.48E-02	2.91E-02	-7.59E-03
Climate change - biogenics	**5.12E-03**	**kg CO_2 eq.**	-3.73E-02	0*	4.07E-02	1.45E-03	0.00E+00	1.45E-03	2.18E-04	-1.39E-02
Climate change - land use and land use transformation	**5.72E-06**	**kg CO_2 eq.**	5.71E-06	4.34E-09	0*	0.00E+00	0.00E+00	0.00E+00	6.54E-09	4.05E-07
Ozone depletion	**7.78E-09**	**kg CFC-11 eq.**	5.54E-09	3.43E-11	3.91E-10	2.85E-10	0.00E+00	2.85E-10	1.53E-09	2.78E-11
Acidification (AP)	**1.87E-03**	**mole of H+ eq.**	8.81E-04	4.74E-06	6.33E-05	7.42E-04	0.00E+00	7.42E-04	1.82E-04	-3.41E-05
Freshwater eutrophication	**1.04E-06**	**kg P eq.**	8.69E-07	1.10E-08	1.30E-08	7.03E-08	0.00E+00	7.03E-08	7.41E-08	1.77E-07
Marine aquatic eutrophication	**2.45E-04**	**kg of N eq.**	1.24E-04	9.08E-07	1.52E-05	6.84E-05	0.00E+00	6.84E-05	3.61E-05	7.81E-06
Terrestrial eutrophication	**4.27E-03**	**mole of N eq.**	1.52E-03	9.96E-06	2.03E-04	2.07E-03	0.00E+00	2.07E-03	4.72E-04	3.25E-05
Photochemical ozone formation	**8.47E-04**	**kg NMVOC eq.**	5.05E-04	3.18E-06	4.28E-05	1.90E-04	0.00E+00	1.90E-04	1.06E-04	-8.79E-06
Depletion of abiotic resources - elements	**5.91E-05**	**kg Sb eq.**	5.90E-05	0*	0*	1.27E-07	0.00E+00	1.27E-07	0*	-4.03E-07
Depletion of abiotic resources - fossil fuels	**7.54E+00**	**MJ**	5.23E+00	5.23E-02	2.02E-01	1.51E+00	0.00E+00	1.51E+00	5.46E-01	-1.41E+00
Water requirement	**1.07E-01**	**m^3 deprivation worldwide eq.**	8.46E-02	1.07E-04	6.33E-04	1.80E-02	0.00E+00	1.80E-02	3.42E-03	-6.81E-03
Emission of fine particles	**1.29E-08**	**incidence of diseases**	6.11E-09	4.16E-11	4.39E-10	5.07E-09	0.00E+00	5.07E-09	1.22E-09	-3.12E-10

*Represents less than 0.01% of the total life cycle of the reference flow

[1] For the Use phase and according to the current PCR, the information modules B1, B3, B4, B5 and B7, all having indicator values equal to «0» (zero), are not listed in this table

In accordance with current PCR rules, the environmental indicator values in the «Module D» column must not be summed with the values in the «Total Life Cycle» column

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	Total Life Cycle		Manufacturing	Distribution	Installation	Use[1]			End of Life	Module D
			A1-A3	A4	A5	Total B1-B7	B2	B6	C1-C4	
Ionizing radiation, human health	**1.47E-01**	**kBq of U235 eq.**	9.29E-02	9.97E-05	4.12E-03	3.71E-02	0.00E+00	3.71E-02	1.29E-02	2.54E-03
Ecotoxicity (fresh water)	**2.72E+00**	**CTUe**	1.58E+00	8.20E-02	2.71E-01	1.33E-01	0.00E+00	1.33E-01	6.55E-01	2.61E-01
Human toxicity, carcinogenic effects	**4.70E-09**	**CTUh**	4.68E-09	5.51E-13	2.09E-12	9.70E-12	0.00E+00	9.70E-12	7.18E-12	4.58E-10
Human toxicity, non-carcinogenic effects	**4.74E-09**	**CTUh**	4.08E-09	1.16E-11	8.20E-11	2.31E-10	0.00E+00	2.31E-10	3.28E-10	-5.27E-10
Impacts related to land use/soil quality	**4.34E-02**	**-**	3.89E-02	1.23E-05	2.41E-04	3.69E-03	0.00E+00	3.69E-03	5.49E-04	1.05E-03
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	**3.09E+00**	**MJ**	3.95E-01	0*	1.79E-02	2.63E+00	0.00E+00	2.63E+00	5.11E-02	-4.03E-02
Use of renewable primary energy resources used as raw materials	**3.96E-01**	**MJ**	3.96E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-01
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	**3.49E+00**	**MJ**	7.91E-01	0*	1.79E-02	2.63E+00	0.00E+00	2.63E+00	5.11E-02	1.37E-01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	**5.67E+00**	**MJ**	3.36E+00	5.23E-02	2.02E-01	1.51E+00	0.00E+00	1.51E+00	5.46E-01	-1.41E+00
Use of non-renewable primary energy resources used as raw materials	**1.87E+00**	**MJ**	1.87E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.94E-03
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	**7.54E+00**	**MJ**	5.23E+00	5.23E-02	2.02E-01	1.51E+00	0.00E+00	1.51E+00	5.46E-01	-1.41E+00

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	Total Life Cycle		Manufacturing	Distribution	Installation	Use[1]			End of Life	Module D
			A1-A3	A4	A5	Total B1-B7	B2	B6	C1-C4	
Use of secondary materials	**2.05E-02**	**kg**	2.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	**0.00E+00**	**MJ**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	**0.00E+00**	**MJ**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	**2.51E-03**	**m³**	1.98E-03	2.48E-06	1.45E-05	4.19E-04	0.00E+00	4.19E-04	8.76E-05	-1.58E-04
Hazardous waste disposed of	**3.50E-01**	**kg**	2.66E-01	0*	1.11E-02	2.50E-03	0.00E+00	2.50E-03	7.10E-02	-2.99E-02
Non-hazardous waste disposed of	**1.03E-01**	**kg**	5.44E-02	2.66E-04	1.46E-03	3.70E-02	0.00E+00	3.70E-02	9.79E-03	7.85E-03
Radioactive waste disposed of	**3.69E-05**	**kg**	3.11E-05	2.11E-07	6.10E-07	3.35E-06	0.00E+00	3.35E-06	1.70E-06	3.67E-06
Components for re-use	**0.00E+00**	**kg**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	**1.75E-02**	**kg**	2.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-02	0.00E+00
Materials for energy recovery	**0.00E+00**	**MJ by energy vector**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	**0.00E+00**	**MJ**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of primary energy during the life cycle	**1.10E+01**	**MJ**	6.02E+00	5.25E-02	2.19E-01	4.14E+00	0.00E+00	4.14E+00	5.97E-01	-1.27E+00

Biogenic carbon content of the product	**0.00E+00**	**kg of C**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	**1.26E-02**	**kg of C**	1.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-03

*Represents less than 0.01% of the total life cycle of the reference flow

[1] For the Use phase and according to the current PCR, the information modules B1, B3, B4, B5 and B7, all having indicator values equal to «0» (zero), are not listed in this table

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The values of the indicators defined in the PCR-ed4-EN-2021 09 06 are available in the digital database of pep-ecopassport.org website.

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The environmental impacts are calculated for a configuration composed by a mechanism, a frame and a plate. For configurations covered by the PEP other than the Reference Product, the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

Cat No	Total life Cycle	Manufacturing	Distribution	Installation	Use	End of life
680100 or 680100CZ or 680100PT	1.0	1.0	1.0	1.0	1.0	1.0
680101 or 680101CZ or 680101PT	1.2	1.2	1.2	1.0	2.0	1.3
680102 or 680102CZ or 680102PT	1.5	1.4	1.4	1.0	3.0	1.6
680103 or 680103CZ ou 680103PT	1.3	1.2	1.2	1.0	2.0	1.3
680104 or 680104CZ ou 680104PT	1.5	1.4	1.4	1.0	3.0	1.6
680105 or 680105CZ ou 680105PT	1.0	1.0	1.0	1.0	1.0	1.0
680106 or 680106CZ ou 680106PT	1.3	1.2	1.2	1.0	2.1	1.4
680107 or 680107CZ ou 680107PT	1.6	1.4	1.4	1.0	3.1	1.7
680108 or 680108CZ ou 680108PT	1.5	1.4	1.4	1.0	3.1	1.6
680150 or 680150CZ or 680150PT (Mechanism) + 680181 or 680181CZ or 680181PT (Plate + Frame)	1.0	1.0	1.0	1.0	1.0	1.0
680151 or 680151CZ or 680151PT (Mechanism) + 680181 or 680181CZ or 680181PT (Plate + Frame)	1.0	1.0	1.0	1.0	1.0	1.0
2x 680150 or 2x 680150CZ or 2x 680150PT (Mechanism) + 6801812 or 680182CZ or 680182PT (Plate + Frame)	1.2	1.2	1.2	1.0	2.0	1.3
3x 680150 or 3x 680150CZ or 3x 680150PT (Mechanism) + 6801813 or 680183CZ or 680183PT (Plate + Frame)	1.5	1.4	1.4	1.0	3.0	1.6

Registration number: **LGRP-00910-V02.01-EN**	Drafting rules: **«PEP-PCR-ed4-EN-2021 09 06» Supplemented by «PSR-0005-ed3.1-2023 12 08»**
Verifier accreditation N°: **VH08**	Information and reference documents: **www.pep-ecopassport.org**
Date of issue: **08-2025**	Validity period: **5 years**
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006	
Internal ☐ **External** ☒	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)	
PEP are compliant with NF C08-100-1 :2016 and EN 50693 :2019 or NF E38-500 :2022 The elements of the present PEP cannot be compared with elements from another program	
Document in compliance with ISO 14025 : 2006: «Environmental labels and declarations. Type III environmental declarations»	

Environmental data in alignment with EN 15804: 2012 + A2 : 2019