128 av. du Maréchal-de-Lattre-de-Tassigny
87045 Limoges Cedex France
Tel. +33 (0) 555068787
Fax. + 33 (0) 555068888

Your usual Sales office
www.legrand.com

Product Environmental Profile

DX³ Thermal magnetic MCBs
1 module per pole

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	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage of 400 V a.c. maximum and rated current of 16 A. This protection is ensured in accordance with the following parameters: - Number of poles: 4 - Rated breaking capacity: 6 kA - Tripping curve: C
Reference Product	 LG-407928 Thermal magnetic MCB - DX³ 6000 - 4P - 400 Vac - 16 A - C curve - Icn= 6 kA

PRODUCTS CONCERNED

The environmental data is representative of the following products: the total thermal magnetic 1 module per pole MCBs offer DX³ 6000 and DX³ 10000, as presented in all relevant catalogues (list available on request at the Customer Service).

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PEP ecopassport®

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.

Total weight of Reference Product	**683 g** (all packaging included)

Plastics as % of weight		**Metals as % of weight**		**Other as % of weight**	
Thermoset	34,2 %	Steel	22,9 %		
Polyamide	2,5 %	Copper alloys	13,7 %		
Polycarbonate	1,0 %	Aluminum	0,7 %		
Polypropylene	0,3 %	Silver alloys	< 0,1 %		
PBT	0,2 %	Other metals	1,2 %		
Packaging					
Polyethylene	0,2 %			Wood	15,3 %
				Paper / cardboard	7,8 %
Total plastics	**38,4 %**	**Total metals**	**38,5 %**	**Total others**	**23,1 %**

Estimated recycled material content: 20 % by mass.

MANUFACTURE

This Reference Product comes from sites that have received ISO14001 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 780 km by road from our warehouse to the local point of distribution into the European market. Packaging is compliant with European directive 2004/12/EU concerning packaging and packaging waste. At their end of life, its recyclability rate is 96 % (in % of packaging weight).

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. This product falls within the scope of the WEEE directive (2012/19/EU). Therefore it must be processed through local WEEE recycling/recovery channels.

• Extended producer responsability:
The sale of this product is subject to a contribution to eco-organisations in each country responsible for managing end-of-life products in the field of application of the European Waste Electronic and Electrical Equipment Directive.

• Recyclability rate:
Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 64 %. This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for the end of life of this product.

Separated into:

- plastic materials (excluding packaging) : 4 %
- metal materials (excluding packaging) : 38 %
- packaging (all types of materials) : 22 %

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 Europe, in compliance with the local current standards.

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

Manufacture	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
Distribution	Transport between the last Group distribution centre and an average delivery point in the sales area.
Installation	The end of life of the packaging.
Use	• Product category: PSR-0005-ed2-2016 03 29 - § 3.1 - Circuit-breakers. • Use scenario: non-continuous operation for 20 years at 50% of rated load, during 30% of the time. This modelling duration does not constitute a minimum durabilty requirement. • Energy model: Electricity Mix, Europe 27 - 2008.
End of life	The default end of life scenario maximizing the impacts.
Software and database used	EIME V5 and its database «CODDE-2016-11»

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SELECTION OF ENVIRONMENTAL IMPACTS

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Global warming	**5.35E+01**	**kgCO_2 eq.**	1.89E+00	**4%**	2.65E-02	**< 1%**	8.66E-03	**< 1%**	5.15E+01	**96%**	2.01E-02	**< 1%**
Ozone depletion	**3.72E-06**	**kgCFC-11 eq.**	3.65E-07	**10%**	5.37E-11	**< 1%**	3.74E-11	**< 1%**	3.36E-06	**90%**	1.92E-10	**< 1%**
Acidification of soils and water	**2.22E-01**	**kgSO_2 eq.**	6.60E-03	**3%**	1.19E-04	**< 1%**	4.02E-05	**< 1%**	2.15E-01	**97%**	8.39E-05	**< 1%**
Water eutrophication	**1.49E-02**	**kg$(PO_4)^{3-}$ eq.**	1.72E-03	**12%**	2.74E-05	**< 1%**	2.36E-05	**< 1%**	1.30E-02	**87%**	1.34E-04	**< 1%**
Photochemical ozone formation	**1.23E-02**	**kgC_2H_4 eq.**	4.77E-04	**4%**	8.47E-06	**< 1%**	2.85E-06	**< 1%**	1.18E-02	**96%**	6.32E-06	**< 1%**
Depletion of abiotic resources - elements	**3.23E-04**	**kgSb eq.**	3.18E-04	**99%**	1.06E-09	**< 1%**	3.62E-10	**< 1%**	4.48E-06	**1%**	9.20E-10	**< 1%**
Total use of primary energy	**1.13E+03**	**MJ**	1.03E+02	**9%**	3.75E-01	**< 1%**	1.21E-01	**< 1%**	1.03E+03	**91%**	2.47E-01	**< 1%**
Net use of fresh water	**1.87E+02**	**m^3**	4.84E-02	**< 1%**	2.37E-06	**< 1%**	1.65E-06	**< 1%**	1.87E+02	**100%**	7.22E-06	**< 1%**
Depletion of abiotic resources - fossil fuels	**6.44E+02**	**MJ**	5.86E+01	**9%**	3.73E-01	**< 1%**	1.21E-01	**< 1%**	5.85E+02	**91%**	2.68E-01	**< 1%**
Water pollution	**2.33E+03**	**m^3**	2.00E+02	**9%**	4.36E+00	**< 1%**	1.38E+00	**< 1%**	2.13E+03	**91%**	2.78E+00	**< 1%**
Air pollution	**3.15E+03**	**m^3**	9.27E+02	**29%**	1.09E+00	**< 1%**	6.51E-01	**< 1%**	2.22E+03	**70%**	1.34E+00	**< 1%**

The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website.

For products covered by the PEP other than the Reference Product, the environmental impacts of the Manufacturing, Distribution, Installation and End of Life are proportional to the number of poles, while the impacts of the Use phase are proportional to the number of poles and to the dissipated power.

Registration N°: LGRP-00828-V01.01-EN	Drafting rules: PEP-PCR-ed3-EN-2015 04 02 Supplemented by PSR-0005-ed2-2016 03 29
Verifier accreditation N°: VH02	Information and reference documents : **www.pep-ecopassport.org**
Date of issue: 09-2018	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025:2010 Internal ☒ External ☐	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1 : 2014 The elements of the present PEP cannot be compared with elements from another program	
Document in compliance with ISO 14025 : 2010: «Environmental labels and declarations. Type III environmental declarations»	
Environmental data in alignment with EN 15804 : 2012 + A1 : 2013	