

# Product Environmental Profile

## DX3 RCBO NEUTRAL ON RIGHT




### 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

Function	Residual Current Circuit Breaker with Overload (RCBO) with positive contact indication for control, protection against short-circuits and overloads, and isolation of electrical circuits, protecting people from direct and indirect contact and protecting installations from insulation faults in accordance with standard EN/IEC 61009-1
Reference Product	 <p>Cat.No 4110 02 DX3 PNR C16 6KA AC 30MA</p>

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
4109 93, 4109 97, 4109 99, 4110 00, 4110 02, 4110 03, 4110 04, 4110 05, 4110 06, 4110 21, 4110 22, 4110 24, 4110 25, 4110 26, 4110 27, 4110 28, 4110 47, 4110 48, 4110 50, 4110 51, 4110 52, 4110 53, 4110 54, 4110 91, 4110 92, 4110 94, 4110 95, 4110 96, 4110 97, 4110 98, 4109 07, 4109 18, 4109 19, 4109 20, 4109 21, 4109 22, 4109 23, 4109 24, 4109 25, 4109 47, 4109 62, 4109 63, 4109 64, 4109 65, 4109 66, 4109 67, 4109 68, 4109 69, 4109 95, 4110 07, 4110 08, 4110 09, 4110 10, 4110 11, 4110 12, 4110 13, 4110 14, 4110 15, 4110 16, 4110 17, 4110 33, 4110 35, 4110 43, 4110 58, 4110 59, 4110 60, 4110 61, 4110 62, 4110 63, 4110 64, 4110 65, 4110 81, 4110 83, 4110 84, 4111 02, 4111 03, 4111 04, 4111 05, 4111 06, 4111 07, 4111 08, 4111 09



### ■ 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 candidate substances covered by appendix XIV of the REACH regulation dated 19/12/2012

Total weight of Reference Product		246 g (with unit packaging)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
PA	19.5%	Steel	25.1%	Other electronic component	0.3%
PBT	18.9%	Copper alloys	19.0%		
PC	1.1%	Other metals	5.9%		
Other plastic	0.9%	Al	0.3%		
POM	0.3%	Zamak	0,1%		
PVC	0.1%	Silver alloys	<0,1%	Packaging as % of weight	
				paper	8.6%
<b>Total plastics</b>	<b>40.7%</b>	<b>Total metals</b>	<b>50.4%</b>	<b>Total other and packaging</b>	<b>8.9%</b>

Estimated recycled material content: 23 % of weight.



### ■ 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 market in Europe

Packaging is compliant with european directive 2004/12/EC concerning packaging and packaging waste. At their end of life the recyclability rate is 100% (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.



### 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 given in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 97 %.

This value is based on data collected from a technological channel operating on an industrial basis. It does not prejudice the effective use of the channel for electrical and electronic products at the end of their life.

Separated into:

- plastic materials (excluding packaging) : 38 %
- metal materials (excluding packaging) : 50 %
- other materials (excluding packaging) : 0 %
- packaging (all types of materials) : 9 %



### 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

The following modelling elements were taken into account:

Manufacture	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 into account.
Distribution	Transport between the last Group distribution centre and an average delivery to the sales area.
Installation	Installation components not delivered with the product are not taken into account.
Use	<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: non-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>• Energy model: Electricity Europe 2005</li> </ul>
End of life	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.
Software used	EIME V5 and its database «Legrand-2012-10-31 version 3» made from the database «CODDE-2012-07»



### ENVIRONMENTAL IMPACTS (continued)

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life		
	Value	Unit	Value	%	Value	%	Value	%	Value	%	Value	%	
Mandatory indicators	Global warming	1.41E+04	g~CO <sub>2</sub> eq.	1.28E+03	9%	2.48E+01	< 1%	0.00E+00	0%	1.28E+04	91%	1.87E+01	< 1%
	Ozone depletion	9.51E-04	g~CFC-11 eq.	2.28E-04	24%	1.75E-05	2%	0.00E+00	0%	6.93E-04	73%	1.33E-05	1%
	Water eutrophication	2.14E-01	g~PO <sub>4</sub> <sup>3-</sup> eq.	1.83E-01	86%	4.12E-04	< 1%	0.00E+00	0%	3.00E-02	14%	3.12E-04	< 1%
	Photochemical ozone creation	5.45E+00	g~C <sub>2</sub> H <sub>4</sub> eq.	9.54E-01	17%	2.15E-02	< 1%	0.00E+00	0%	4.46E+00	82%	1.62E-02	< 1%
	Air acidification	2.35E+00	g~H+ eq.	6.33E-01	27%	3.16E-03	< 1%	0.00E+00	0%	1.71E+00	73%	2.47E-03	< 1%
	Total energy depletion	2.76E+02	MJ	2.27E+01	8%	3.13E-01	< 1%	0.00E+00	0%	2.53E+02	92%	2.37E-01	< 1%
	Water depletion	5.20E+01	dm <sup>3</sup>	1.54E+01	30%	2.97E-02	< 1%	0.00E+00	0%	3.65E+01	70%	2.25E-02	< 1%

Optional indicators	Raw material depletion	3.85E-14	year <sup>1</sup>	3.83E-14	99%	4.27E-19	< 1%	0.00E+00	0%	2.87E-16	< 1%	3.23E-19	< 1%
	Air toxicity	3.18E+06	m <sup>3</sup>	1.06E+06	33%	4.67E+03	< 1%	0.00E+00	0%	2.12E+06	66%	3.66E+03	< 1%
	Water toxicity	4.32E+00	m <sup>3</sup>	6.47E-01	15%	3.45E-03	< 1%	0.00E+00	0%	3.66E+00	85%	2.61E-03	< 1%
	Hazardous waste production	2.53E-01	kg	4.18E-02	16%	9.22E-06	< 1%	0.00E+00	0%	2.12E-01	84%	6.97E-06	< 1%

The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family. To determine the environmental impact of a product covered by the PEP other than the cat. number (ref 4110 02), the following rules apply :

Manufacturing, Distribution, Installation and End of life phases are identical.

Use phase impacts are proportional to the power dissipated.

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.

N°enregistrement : LGRP-2014-007-v1-en	Règles de rédaction : PCR : PEP-PCR-ed 2.1-FR-2012 12 11 complété par le PSR : PSR-0005-ed1-FR-2012 12 11
N° d'habilitation du vérificateur : VH02	Information programme : www.pep-ecopassport.org
Date d'édition : 01-2014	Durée de validité : 4 ans
Vérification indépendante de la déclaration et des données, conformément à l'ISO 14025:2006 Interne <input checked="" type="checkbox"/> Externe <input type="checkbox"/>	
Conforme à la norme ISO 14025 : 2006 déclarations environnementales de type III	
La revue critique du PCR a été conduite par un panel d'experts présidé par J.Chevalier (CSTB)	
Les éléments du présent PEP ne peuvent pas être comparés avec les éléments issus d'un autre programme	

