




### 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>Fonction</b>	Compensate reactive power and eliminate penalties for reactive energy consumption capacitors comply with EN 60831-1 and 2 for a duration of use of 10 years.
<b>Reference Product</b>	
	Catalogue Numbers 4 150 04
	Capacitors Alpivar - 400V - 50Hz- 25Kvar

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 for the reference product refers to the following Catalogue Numbers:

<p><b>Références</b></p> <p>4 150 00, 4 150 01, 4 150 02, 4 150 03, 4 150 04, 4 150 05, 4 150 06, 4 150 07, 4 150 08, 4 150 09, 4 150 10, 4 150 11, 4 150 12, 4 150 13, 4 150 14, 4 150 15, 4 150 16, 4 150 17, 4 150 18, 4 150 19, 4 150 20, 4 150 21, 4 150 22, 4 150 23 VH2.540CB, VH540CB, VH7.540CB, VH1040CB, VH12.540CB, VH1540CB, VH2040CB, VH2540CB, VH3040CB, VH3540CB, VH4040CB, VH5040CB, VH6040CB, VH7540CB, VH8040CB, VH9040CB, VH10040CB, VH12540CB</p>
--



### ■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. At the date of publication of this document, this Reference Product does not contain RoHS substances (2002/95/EC and its revision 2011/65/EU), and no substances appearing on the list of substances that are candidate for authorization of the european Reach regulation (REACH - article 33.1).

Total weight of Reference Product		3759 g (with unit packaging)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
Polypropylene	44,7%	Copper	3,7%	Hardener	4,3%
Polyurethane	28,3%	Zinc	2,4%	Silicone oil	0,7%
Acrylonitrile butadiene styrene	6,7%	Steel	0,5%	Other miscellaneous	0,3%
Polybutylene terephthalate	1,6%			Packaging as % of weight	
Polyethylene terephthalate	0,2%			Cardboard	6,4%
Other plastics	0,2%				
Total plastics	81.7%	Total metals	6.6%	Total other and packaging	11.7%

Estimated recycled material content: 8% by mass.



### ■ MANUFACTURE

This Reference Product comes from a site that has initiated an environmental 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 1440 km by road from our warehouse to the local point of distribution into the market Europe.

Packaging is compliant: with european directive 2004/12/EC concerning packaging and packaging waste. At the packaging end of life, its theoretical recycling potential is of 100% and its energy recovery potential is of 100% (in % of the mass of the packaging)



### ■ 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 the Reference Product



### END OF LIFE

- Hazardous waste contained in the product: 0 g  
no hazardous waste comes from this Reference Product
- Non-hazardous waste contained in the product: 3518 g

#### Theoretical recycling potential:

The theoretical recycling potential of a product is the percentage of material that can be recycled using existing techniques. It takes no account of the existence or lack of recycling services, which are highly dependent on the local situation. This Reference Product contains 94% by weight of potentially recycling material (excluding packaging) :

This Reference Product contains 94% by weight of potentially recycling material (excluding packaging):

- Plastic materials : 87 %
- Metal materials : 7 %

#### Energy recovery potential:

Energy recovery consists in using the calories contained in waste by burning it and recovering the energy produced, for example, to heat buildings or to produce electricity. The process uses the convertible energy contained in the waste. 87 % of the product mass can be reclaimed with energy recovery.



### 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 in account. As required by the "PEP ecopassport" programme all transports for the manufacturing of the Reference Product, including materials and components, has been taken in 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 the Reference Product</li> <li>• Product category : active product</li> <li>• Use scenario : for a 10 years working life, in active mode of operation, with a power of 78 W and 100% associated time of one year of operation. This modelling duration does not constitute a minimum durability requirement</li> <li>• Energy model: Europe, year 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-2012-08-22 version 2» 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	Contribution to greenhouse effect	3,96E+03	g~CO2	1,47E+01	< 1%	7,67E-03	< 1%	0,00E+00	0%	3,95E+03	100%	2,84E-01	< 1%
	Damage to the ozone layer	2,15E-04	g~CFC-11	6,25E-07	< 1%	5,42E-09	< 1%	0,00E+00	0%	2,14E-04	100%	2,02E-07	< 1%
	Eutrophisation of water	1,13E-02	g~PO43-	2,01E-03	18%	1,27E-07	< 1%	0,00E+00	0%	9,28E-03	82%	4,74E-06	< 1%
	Photochemical ozone formation	1,39E+00	g~C2H4	8,79E-03	< 1%	6,65E-06	< 1%	0,00E+00	0%	1,38E+00	99%	2,47E-04	< 1%
	Acidification of the air	5,32E-01	g~H+	2,43E-03	< 1%	9,77E-07	< 1%	0,00E+00	0%	5,30E-01	100%	3,76E-05	< 1%
	Total energy consumed	7,86E+04	MJ	3,43E+02	< 1%	9,69E-02	< 1%	0,00E+00	0%	7,82E+04	100%	3,60E+00	< 1%
	Consumption of water	1,14E+04	dm3	1,32E+02	1%	9,19E-03	< 1%	0,00E+00	0%	1,13E+04	99%	3,42E-01	< 1%

Optional indicators	Depletion of natural resources	1,59E-13	années <sup>-1</sup>	7,02E-14	44%	1,32E-19	< 1%	0,00E+00	0%	8,88E-14	56%	4,91E-18	< 1%
	Toxicity of the air	6,59E+08	m <sup>3</sup>	4,65E+06	< 1%	1,44E+03	< 1%	0,00E+00	0%	6,55E+08	99%	5,57E+04	< 1%
	Toxicity of the water	1,14E+03	dm <sup>3</sup>	4,67E+00	< 1%	1,05E-03	< 1%	0,00E+00	0%	1,13E+03	100%	3,90E-02	< 1%
	Production of hazardous waste	6,58E+01	kg	2,62E-01	< 1%	2,85E-06	< 1%	0,00E+00	0%	6,55E+01	100%	1,06E-04	< 1%

The environmental impacts of the Reference Product are representative of the products covered by the PEP. 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 product other than the reference (ref 4150 04), the following rules apply:

- The impact of phases Manufacturing, Distribution and End of life is proportional to the mass
- The use phase impacts are proportional to battery power in kvar and for batteries with breaker, add 20% to the value of the use impact

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-2013-040-v1-en	Drafting rule: PEP-PCR-ed 2-FR-2011 12 09
Authorisation number of checker: VH02	Programme information: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 03-2013	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	



## Product Environmental Profile

Capacitors Alpivar - 400V



### ■ ECO-SOLUTION

The use of this product optimize energy consumption, increase power availability, insure efficiency and productivity