

Product Environmental Profile

Ortronics® Modular to 110 Patch Panels



LEGRAND COMPANY OVERVIEW

- **Designed to Be Better – Our Commitment to Sustainability**

At Legrand®, our sustainability commitment translates into greater benefits and tangible value for our customers, business partners, employees, and the broader community.

- **Better Performance**

We provide building solutions to meet many building performance goals from sustainability and energy efficiency to productivity and occupant well being. The right choice in network and electrical infrastructure can play a key role in many facets of building performance. Our products help ensure electrical safety. They offer choice and flexibility in space design. They are designed to reduce installation time and material waste on site. Because we know buildings consume a great deal of energy, we offer a range of products and solutions that reduce energy consumption from lighting to plug load to data centers.

- **Better Solutions**

We offer a wide range of innovative solutions for the building, while constantly evolving our design and development processes to improve the environmental profile of our products. Through active monitoring and research, we serve as an expert resource for market trends and building and product performance standards to keep our customers at the top of their game.

- **Better Operations**

We focus on operational excellence because we believe optimizing the way we manage energy, water and waste is not only good for the environment, it's good for business. As part of the Department of Energy's Better Building, Better Plants Challenge (BBBP) Legrand has reduced its energy intensity by over 30% across 14 sites in the United States in just three years. Integrating sustainability into the way we run our operations makes us more competitive – and a better business partner.



For information on Legrand PEP's and other sustainability initiatives, scan the QR code to be brought to our Product Sustainability page.



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 Legrand 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**

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

<p>Function</p>	<p>A cross connection system of mateable connectors that facilitate administration. This system complies with the Category 6A specification, per TIA-568-C.2-2009 Standard, and has a typical lifetime of 20 years.</p>
<p>Reference Product</p>	<div data-bbox="475 1641 1455 1944" data-label="Image"> </div> <p>Part Number: OR-PHA6AU48 48-Port Angled Clarity 6A Patch Panel</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.

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PRODUCTS CONCERNED

The environmental data is representative of the following products:

Clarity® 6A/10G Patch Panels (Flat, Angled, Curved)

24 port: OR-PHD6AU24-X 48 port: OR-PHD6AU48-X
OR-PHA6AU24-X OR-PHA6AU48-X
OR-PHC6AU24¹ OR-PHC6AU48¹

X = panel color, standard color (no -X) is black

Clarity® Patch Panels Category 6 and 5e (Flat, Angled, Curved)

24 port: OR-PHD5E6U24-X 48 port: OR-PHD5E6U48-X
OR-PHD66U24-X OR-PHD66U48-X
OR-PHA5E6U24-X OR-PHA5E6U48-X
OR-PHA66U24-X OR-PHA66U48-X
OR-PHC66U24¹ OR-PHC66U48¹

X = panel color, standard color (no -X) is black

Clarity® 10G Patch Panels (Flat and Angled)

24 port: OR-PHD610U24 48 port: OR-PHD610U48
OR-PHA610U24 OR-PHA610U48

TechChoice® Patch Panels Category 6 and 5e (Flat and Angled)

24 port: OR-SP5EU24^{1,2} 48 port: OR-SP5EU48^{1,2}
OR-SP6U24^{1,2} OR-SP6U48^{1,2}
OR-SPA5EU24² OR-SPA5EU48²
OR-SPA6U24² OR-SPA6U48²

Products denoted with a [¹] indicate that the second table should be referenced below.

Products denoted with a [²] indicate that the products do not contain cable management bars (made of steel). The percentage of steel in these products is lower than what is portrayed in the tables below.



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/CE.

Total weight of Reference Product (with unit packaging)		62 oz (1.75 kg)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
ABS	11.4%	Steel	50.6%	Printed Circuit Board	4.1%
PC	6.0%	Copper Alloys	1.6%	Paper	0.4%
PC + stainless steel fiber	2.6%	Other Metals	<0.1%		
PP	3.1%				
PA	0.5%				
PVC	0.2%			Packaging as % of weight	
PBT + 30% glass filled	2.5%			Paper, Cardboard	14.8%
Other Plastics	0.2%			PE	1.8%
				PP	0.2%
Total plastics	26.6%	Total metals	52.2%	Total other and packaging	21.2%

Estimated recycled material content: 24.7% of weight.

For part numbers denoted with a [¹] above, the table below represents the list of materials for products containing a patch panel made of Aluminum. (The Reference Product and part numbers not denoted with a [¹] above contain a patch panel made of Steel.)

Plastics as % of weight		Metals as % of weight		Other as % of weight	
ABS	14%	Steel	23%	Printed Circuit Board	5%
PC	8%	Aluminum	14%	Paper	<1%
PC + stainless steel fiber	3%	Copper Alloys	2%		
PP	4%	Other Metals	<1%		
PA	<1%				
PVC	<1%			Packaging as % of weight	
PBT + 30% glass filled	3%			Paper, Cardboard	19%
Other Plastics	<1%			PE	2%
				PP	<1%
Total plastics	34%	Total metals	40%	Total other and packaging	26%

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MANUFACTURING

The Reference Product comes from sites that have received ISO 14001 certification.



DISTRIBUTION

Products are distributed from logistics centers located to optimize transport efficiency. Information on the distance of distribution is not available so the PCR hypothesis for "Intercontinental transport", 2175 miles (3500 km) by heavy truck, was used. This represents transportation of the Reference Product from our warehouse to the local point of distribution in the North American market.



INSTALLATION

No electricity is required for installing the Reference Product.



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.

• Hazardous waste* contained in the product: no hazardous waste

(* Hazardous waste as defined by European Commission decision 2000/532/EC.

• Recycling rate:

Calculated using the method described in the IEC/TR 62635 technical report, the recyclability rate of the product is estimated as 90%. This value is based on data collected from a technological channel using industrial procedures. It does not pre-validate the effective use of this channel for end-of-life electrical and electronic products.

Separated into:	(% mass of Reference Product)
- plastic materials (excluding packaging):	20%
- metal materials (excluding packaging):	52%
- other materials (excluding packaging):	3%
- packaging (all types of materials):	15%

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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 North America.

The following modelling elements were taken into account:

Manufacturing	Packaging taken into account. As required by the PEP ecopassport program all transport for the manufacturing of the Reference Product, including materials and components, has been taken into account. The waste generated during manufacturing phase has been taken into account.
Distribution	Transport between the last distribution center and an average delivery to the sales area.
Installation	The end-of-life of the packaging is taken into account at this phase.
Use	<ul style="list-style-type: none"> • Under normal conditions of use, this type of product requires no servicing or maintenance. • No consumables are necessary to use this type of product. • Product category: passive product • Use scenario: continuous operation (operating 100% of the time) for 20 years. Assumed half of the total number of ports are in use simultaneously. This modelling duration does not constitute a minimum durability requirements. • Energy model: Electricity(US) - 2009
End of life	According to the PEP Ecopassport program rules, the end of life of the product is modelled by a transport of 621 miles (1000 km) by truck and landfilling the constituent materials.
Software used	EIME V5 and its database "CODDE-2015-04" and the indicators defined in the PCR ed 3 in alignment with the EN15804 standard

	Total for Life cycle		Raw material and manufacturing		Distribution		Installation		Use		End of life	
	Value	Unit	Value	%	Value	%	Value	%	Value	%	Value	%
Global warming	1.12E+01	kg CO ₂ eq.	1.07E+01	95%	3.05E-01	3%	2.02E-02	< 1%	9.78E-02	< 1%	1.24E-01	1%
Ozone depletion	1.04E-06	kg CFC-11 eq.	1.03E-06	100%	6.18E-10	< 1%	2.16E-10	< 1%	1.77E-09	< 1%	2.04E-09	< 1%
Acidification of soil and water	1.94E-02	kg SO ₂ eq.	1.73E-02	89%	1.37E-03	7%	9.45E-05	< 1%	9.36E-05	< 1%	4.96E-04	3%
Water eutrophication	4.80E-03	kg PO ₄ ³⁻ eq.	3.66E-03	76%	3.15E-04	7%	1.03E-04	2%	2.49E-05	< 1%	6.98E-04	15%
Photochemical ozone formation	2.83E-03	kg C ₂ H ₄ eq.	2.71E-03	96%	9.73E-05	3%	6.78E-06	< 1%	1.50E-05	< 1%	2.04E-09	< 1%
Depletion of abiotic resources - elements	7.98E-03	kg Sb eq.	7.98E-03	100%	1.22E-08	< 1%	9.65E-10	< 1%	9.61E-10	< 1%	6.65E-09	< 1%
Total use of primary energy	2.91E+02	MJ	2.82E+02	97%	4.31E+00	1%	2.94E-01	< 1%	1.67E+00	< 1%	1.79E+00	< 1%
Net use of fresh water	1.32E-01	m ³	1.32E-01	100%	2.73E-05	< 1%	8.69E-06	< 1%	1.73E-04	< 1%	7.22E-05	< 1%
Depletion of abiotic resources – fossil fuels	1.57E+02	MJ	1.49E+02	95%	4.28E+00	3%	2.82E-01	< 1%	1.55E+00	< 1%	1.70E+00	1%
Water pollution	1.61E+03	m ³	1.54E+03	95%	5.01E+01	3%	2.95E+00	< 1%	4.82E+00	< 1%	1.57E+01	< 1%
Air pollution	1.81E+03	m ³	1.77E+03	98%	1.25E+01	< 1%	2.52E+00	< 1%	8.32E+00	< 1%	1.10E+01	< 1%

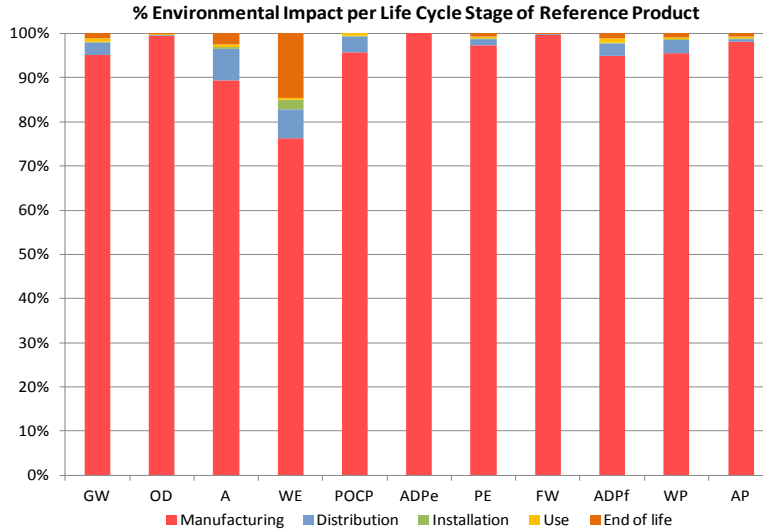
The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website. The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.

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ENVIRONMENTAL IMPACTS (continued)



For products other than the Reference Product, the environmental impacts can be estimated by weighting the environmental impacts of the Reference Product by the values shown in the table below. The impacts are proportional to the number of ports, thus 24-port panels have extrapolation scale factors of 0.5 for each life cycle stage, compared to the corresponding 48-port panel, with the exception of the installation phase which has the same factor. For example, OR-PHD6AU24 has a factor of 0.5 for manufacturing, corresponding with OR-PHD6AU48 which has a factor of 1.0. For distribution, OR-SPA6U24 would have a factor of 0.4, corresponding with OR-SPA6U48 which has a factor of 0.8.

Part Number	Manufacturing	Distribution	Installation	Use	End of Life
OR-PHC6AU48 OR-PHC66U48	A: 1.5 AP: 0.9 OD: 1.4 all else: 1.1	0.8	1.0	1.0	0.9
OR-PHA610U48 OR-PHA66U48-W OR-PHA5E6U48-W	1.0	1.0	1.0	1.0	1.0
OR-PHD610U48 OR-PHD6AU48-W OR-PHD66U48-W OR-PHD5E6U48-W	1.0	0.9	0.7	1.0	1.0
OR-SPA6U48 OR-SPA5EU48	ADPe: 0.2 all else: 0.8	0.8	0.9	1.0	0.9
OR-SP6U48 OR-SP5EU48	ADPe: 0.2 A: 1.3 AP: 0.6 OD: 1.0 all else: 0.8	0.5	0.5	1.0	0.6

Registration number: LGRP-00001-V01.02-EN	Drafting rules: "PCR-ed3-EN-2015 04" Supplemented by "PSR-0005-ed1-EN-2012 12 11"
Verifier's accreditation number: VH02	Information and reference documents: www.pep-ecopassport.org
Date of issue: 07-2015	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025:2010 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/>	
The PCR Review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN).	
The elements of the present PEP cannot be compared with elements from another program.	
Documents in compliance with ISO 14025:2010: "Environmental labels and declarations - Type III environmental declarations"	
In compliance with ISO 14040:2006: "Environmental management - LCA - Principles and framework" In compliance with ISO 14044:2006: "Environmental management - LCA - Requirements and guidelines" Environmental data in alignment with EN 15804:2012+A1:2013: "Sustainability of construction works - EPD's - Core rules for the product category of construction products"	