Legrand North and Central America
Data, Power, Control Division
125 Eugene O'Neill Drive
New London, CT 06320
1.877.BY.LEGRAND (295.3472)
www.legrand.us

Product Environmental Profile

Clarity and TechChoice Multi-Port Loaded Patch Panels

COMPANY OVERVIEW

• Sustainability built in to support our associates, customers, and the environment
At Legrand North and Central America, we're committed to leading by example within our own operations, to developing high quality solutions for our customers' High Performance Buildings, and to transforming how people live and work – more safely, more comfortably, more efficiently.

• Better Performance
A core principle of designing for sustainability drives us to innovate products and systems that enable buildings to reach exceptional levels of performance, bringing about industry-leading ideas, inventions and initiatives.

• Better Operations
A commitment to a leadership role in operational excellence through environmental management, optimizing the way we manage energy, water and waste.

• Better Lives
A dedication to enhancing employee and community welfare through programs that help people enjoy healthier, more productive and more rewarding lives.

For more information on Legrand's PEPs and other sustainability initiatives, visit legrand.us/sustainability.

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

Function	To protect and link a connection point during 10 years with a 100% use rate for copper telecommunication applications in a data center.
Reference Product	
	Part Number: PHA6AU48
	48-Port CAT 6A Clarity® Angled Patch Panel with eight 6-Port RJ45 Modules, High Density

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PEP ecopassport®

PRODUCTS CONCERNED

The environmental data is representative of the following products:

Clarity® 6A Patch Panels (Flat and Angled)
24 port: PHD6AU24-X, PHA6AU24-X
48 port: PHD6AU48-X, PHA6AU48-X
X = panel color

Clarity® Patch Panels Category 6 and 5e (Flat and Angled)
24 port: PHD5E6U24-X, PHD66U24-X, PHA5E6U24-X, PHA66U24-X
48 port: PHD5E6U48-X, PHD66U48-X, PHA5E6U48-X, PHA66U48-X
X = panel color

Clarity® 10G Patch Panels (Flat and Angled)
24 port: PHD610U24, PHA610U24
48 port: PHD610U48, PHA610U48

TechChoice® Patch Panels Category 6A, 6, and 5e (Flat and Angled)
24 port: SP6AU24, SPA5EU24, SPA6U24, SPA6AU24
48 port: SP6AU48, SPA5EU48, SPA6U48, SPA6AU48

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/E.

Total weight of Reference Product	**36 g (0.08 lb)**

Plastics as % of weight		**Metals as % of weight**		**Others as % of weight**	
Product					
ABS	**11.1%**	Steel	**51.1%**	Printed Circuit Board	**4.1%**
PC	**8.5%**	Other metal	**1.1%**	Paper	**0.4%**
PP	**3.1%**	Copper and copper alloys	**0.4%**		
PBT + 30% glass filled	**2.5%**				
PA	**0.9%**				
PVC	**0.2%**				
Other plastic	**0.2%**				
Packaging					
PE	**1.8%**			Paper and cardboard	**14.6%**
Total plastics	**28.3%**	**Total metals**	**52.6%**	**Total others**	**19.1%**

Estimated recycled material content: 30% of weight.

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 using EPA SmartWay® certified carriers to reduce greenhouse gases emissions. Information on the distance of distribution is not available so the PCR hypothesis for "Intracontinental 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.

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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

• **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 Reference Product without packaging is estimated as 96%. 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 excluding packaging)
- plastic materials:	30%
- metal materials:	63%
- other materials:	3%
Recycling rate of packaging (all types of materials):	89%

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. The default scenario modelled maximizes the environmental impact using the PCR hypothesis for "Intracontinental transport": 2175 miles (3500 km) by heavy truck.
Installation	The end of life of the packaging is taken into account at this phase. Transport of packaging to end of life treatment.
Use	• 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: sockets - copper telecom accessories • Use scenario: power data used from PSR0005 section 4.1.1 for CAT 6A power loss across connector and section 3.8.2.2 for Copper Telecom accessories for 10 year reference lifetime and 10% use rate for data centers applications. • Energy model: Electricity(US) - 2009
End of life	The default end of life scenario modelled maximizes the environmental impact using the PCR hypothesis for "Local transport": 621 miles (1000 km) by heavy truck and landfilling.
Software used	EIME V5 and its database "CODDE-2018-11" and the indicators defined in the PCR ed 3 in alignment with the EN15804 standard.

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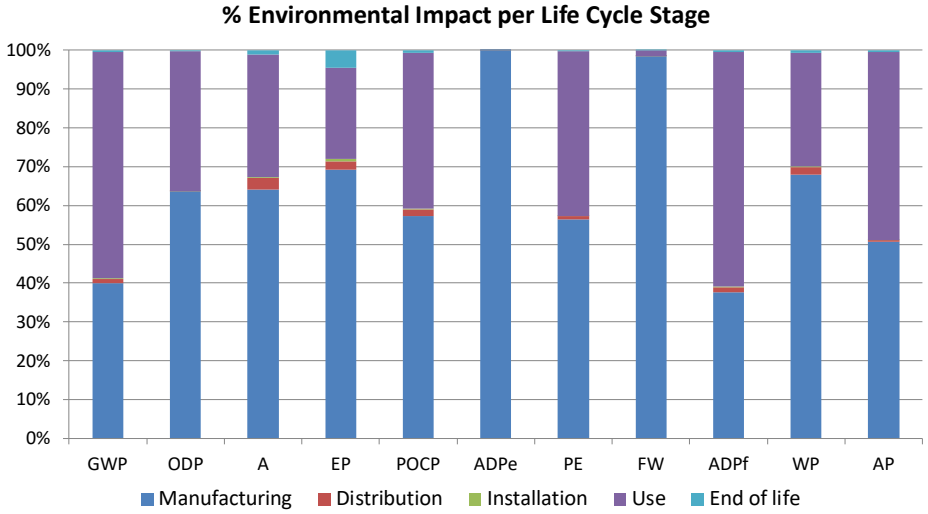
ENVIRONMENTAL IMPACTS (continued)

	Total for Life cycle		Raw material and manufacturing		Distribution		Installation		Use		End of life	
Global warming (GWP)	**5.13E-01**	**kg CO_2 eq.**	2.04E-01	**40%**	6.30E-03	**1%**	4.06E-04	**< 1%**	2.99E-01	**58%**	2.57E-03	**< 1%**
Ozone depletion (ODP)	**1.50E-08**	**kg CFC-11 eq.**	9.56E-09	**64%**	1.28E-11	**< 1%**	4.25E-12	**< 1%**	5.42E-09	**36%**	4.22E-11	**< 1%**
Acidification of soil and water (A)	**9.07E-04**	**kg SO_2 eq.**	5.81E-04	**64%**	2.83E-05	**3%**	1.91E-06	**< 1%**	2.86E-04	**32%**	1.03E-05	**1%**
Water eutrophication (EP)	**3.20E-04**	**kg PO_4^{3-} eq.**	2.21E-04	**69%**	6.51E-06	**2%**	2.07E-06	**< 1%**	7.54E-05	**24%**	1.45E-05	**5%**
Photochemical ozone creation (POCP)	**1.14E-04**	**kg C_2H_4 eq.**	6.54E-05	**57%**	2.01E-06	**2%**	1.37E-07	**< 1%**	4.58E-05	**40%**	7.88E-07	**< 1%**
Depletion of abiotic resources - elements (ADPe)	**3.70E-04**	**kg Sb eq.**	3.70E-04	**100%**	2.52E-10	**< 1%**	1.93E-11	**< 1%**	2.94E-09	**< 1%**	1.38E-10	**< 1%**
Total use of primary energy (PE)	**9.50E+00**	**MJ**	5.35E+00	**56%**	8.91E-02	**< 1%**	5.36E-03	**< 1%**	4.02E+00	**42%**	3.00E-02	**< 1%**
Net use of fresh water (FW)	**3.44E-02**	**m^3**	3.39E-02	**98%**	5.64E-07	**< 1%**	1.72E-07	**< 1%**	5.28E-04	**2%**	1.50E-06	**< 1%**
Depletion of abiotic resources – fossil fuels (ADPf)	**6.02E+00**	**MJ**	2.26E+00	**38%**	8.85E-02	**1%**	5.14E-03	**< 1%**	3.64E+00	**60%**	2.81E-02	**< 1%**
Water pollution (WP)	**5.03E+01**	**m^3**	3.41E+01	**68%**	1.04E+00	**2%**	5.95E-02	**< 1%**	1.47E+01	**29%**	3.26E-01	**< 1%**
Air pollution (AP)	**5.24E+01**	**m^3**	2.65E+01	**51%**	2.58E-01	**< 1%**	5.07E-02	**< 1%**	2.54E+01	**48%**	2.29E-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.



The environmental impact of the Reference Product occurs predominantly during the Manufacturing and Use phases.

ENVIRONMENTAL IMPACTS (continued)

Environmental impacts are based on one connection point (or port). To calculate the impacts for the Reference Product (48-port) and other products, the PEP user shall multiply the impacts in the previous table by the number of connection points used.

Additionally, to calculate the Manufacturing phase impacts for other products covered by the PEP, refer to the table below for the applicable factor by which to multiply the Manufacturing phase impacts shown in the table above for the Reference Product. For all other phases, the impacts are the same as the Reference Product.

Part Number	Manufacturing
PHA6AU48 PHA610U48 PHA66U48 PHA5E6U48 PHD6AU48 PHD610U48 PHD66U48 PHD5E6U48	1.0
SPA6AU48 SPA6U48 SPA5EU48	ADPe: 0.5 FW: 0.7 all else: 0.9
SP6AU48	ADPe: 0.7 FW: 1.2 all else: 1.0

Registration number: LGRP-00827-V01.01-EN	Drafting rules: "PCR-ed3-EN-2015 04" Supplemented by "PSR-0005-ed2-EN-2016 03 29"
Verifier's accreditation number: VH02	Information and reference documents: **www.pep-ecopassport.org**
Date of issue: 03-2022	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).	
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"	
In compliance with ISO 14040:2006: "Environmental management – LCA – Principles and framework" In compliance with ISO 14044:2006: "Environmental management – LCA – Requirements and guidelines" In alignment with EN 15804:2012+A1:2013: "Sustainability of construction works - EPD's - Core rules for the product category of construction products"	