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.).

COMPANY OVERVIEW

- Sustainability built in to support our associates, customers, and the environment
  At Legrand North 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.

REFERENCE PRODUCT

<table>
<thead>
<tr>
<th>Function</th>
<th>Connects equipment using one LC and SC duplex connector and transmits a communication signal on 1 m of cable according to 10GBASE-LR for singlemode (OS2) fiber during a 10 year typical lifetime at 25% use rate.</th>
</tr>
</thead>
</table>

| Reference Product | Part Number: 820-L47-003 Fiber Optic Patch Cord, LC-SC Duplex, OS2, 1 meter, Yellow |

Representative product shown.

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 is representative of the following product types: Fiber Optic Patch Cords with LC and/or SC duplex connectors (LC-LC, LC-SC, and SC-SC).

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/EC and does not contain, as far as we know, any substance on the candidate list at the time the PEP was published for authorization of the REACH regulation (EC) no. 1907/2006 with a concentration above 0.1% w/w.

<table>
<thead>
<tr>
<th>Plastics as % of weight</th>
<th>Metals as % of weight</th>
<th>Other as % of weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT 13.4%</td>
<td>Copper alloys 10.0%</td>
<td>Optical Fiber Cable 21.9%</td>
</tr>
<tr>
<td>PP 2.8%</td>
<td>Stainless Steel 0.8%</td>
<td>Ceramic 4.2%</td>
</tr>
<tr>
<td>PET 0.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various plastics 9.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total plastics 25.5%</td>
<td>Total metals 10.8%</td>
<td>Total other and packaging 63.7%</td>
</tr>
</tbody>
</table>

Estimated recycled material content: 3.8% of weight.

Due to variations in the material content and mass of LC and SC connectors, the proportions of PP, various plastics, Copper alloys, Stainless steel, and PE (packaging) vary from the Reference Product values shown above for the product types outlined in the table below. All other material proportions are the same as shown above for the Reference Product.

<table>
<thead>
<tr>
<th>Product Type</th>
<th>PP</th>
<th>Various plastics</th>
<th>Copper Alloys</th>
<th>Stainless Steel</th>
<th>PE (packaging)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patch cord with two SC duplex connectors</td>
<td>5%</td>
<td>1%</td>
<td>19%</td>
<td>0%</td>
<td>35%</td>
</tr>
<tr>
<td>Patch cord with two LC duplex connectors</td>
<td>0%</td>
<td>18%</td>
<td>0%</td>
<td>2%</td>
<td>40%</td>
</tr>
</tbody>
</table>

MANUFACTURING

The Reference Product comes from a site that has 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.

INSTALLATION

Impacts concerning the product installation processes should be completed by the PEP user.
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 43%. 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 without packaging)
  - plastic materials (excluding packaging): 25%
  - metal materials (excluding packaging): 17%
  - other materials (excluding packaging): 0%

  Recycling rate of packaging (all types of materials): <1%

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 up to first level packaging. 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. |
| Installation | The end of life of the packaging [11 g] is taken into account at this phase. Transport of packaging to end of life treatment. Per PSR0001 for Optical Telecom Accessories, impacts concerning the product installation processes should be completed by the PEP user. |
| 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: pre-terminated fiber optic cables with connectors • Use scenario: 10 year working life operating 25% of the time, according to the LAN - tertiary (commercial) application defined in Annex 1 of PSR0001. The energy dissipation through the connectors is calculated according to Table 3 of PSR0001. This modelling duration does not constitute a minimum durability requirement. • Energy model: Electricity(US) - 2009 |
| End of life | In accordance with the PSR0001 end of life scope for communication and data cable, the Reference Product is transported locally 621.37 miles (1000km) by truck. Metal and plastic materials undergo separation and grinding. 100% of the metals are transported locally 621.37 miles (1000km) by truck to a manufacturing site for reuse after grinding and all other materials, not including packaging, are disposed of at a landfill. |
| 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 |
The environmental impact of the Reference Product occurs predominantly during the Manufacturing phase.
## ENVIRONMENTAL IMPACTS (continued)

For products other than the Reference Product, the environmental impacts for Manufacturing can be estimated by weighting the environmental impacts of the Reference Product by the values shown in the table below.

Impacts for Distribution are proportional to the mass of the Reference Product. Impacts for Use are proportional to the number of connectors (based on the number of fibers, with 2 fibers as the default number). For example, to calculate the impacts for a 12-fiber cable, multiply each impact by 6. Impacts for End of Life are proportional to the mass of the Reference Product without packaging.

The environmental impacts shown in the table above are based on the default length of 1 m of cable. To extrapolate different lengths, multiply the impacts by a scale factor corresponding to the desired length relative to 1 m (i.e., for a 5 m cable multiply the impacts by 5). This also applies with conversions from meters to feet, where 1 m = 3.28 ft.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patch cord with one LC duplex connector and one SC duplex connector</td>
<td>1.0</td>
</tr>
</tbody>
</table>
| Patch cord with two SC duplex connectors | ADPe: 2.0  
OD: 1.2  
WP: 1.8  
all else: 1.5 |
| Patch cord with two LC duplex connectors | ADPe: 0.001  
OD: 0.8  
WP: 0.2  
all else: 0.5 |

Registration number: LGRP-00469-V01.01-EN  
Drafting rules: “PCR-ed3-EN-2015 04”  
Supplemented by: “PSR-0001-ed3-EN-2015 10 16”  
Verifier’s accreditation number: VH02  
Information and reference documents: www.pep-ecopassport.org  
Date of issue: 08-2017  
Validity period: 5 years

Independent verification of the declaration and data, in compliance with ISO 14025:2010

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 alignment with EN 15804:2012+A1:2013: “Sustainability of construction works - EPD’s - Core rules for the product category of construction products”