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

<table>
<thead>
<tr>
<th>Function</th>
<th>Connects a multimedia source to a display device using two male HDMI connectors and transmits between them a digital A/V signal along 1 m of cable according to the HDMI standard for high speed and ethernet during a 10 year typical lifetime at a 25% use rate.</th>
</tr>
</thead>
</table>
| Reference Product | Part Number: 40303  
1M High Speed HDMI® Cable with Ethernet  
Representative product shown. |

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

The environmental data is representative of the following product types: cables with HDMI (M/M) connectors.

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>PVC</td>
<td>46.7%</td>
<td>9.3%</td>
</tr>
<tr>
<td>PE</td>
<td>22.7%</td>
<td>5.3%</td>
</tr>
<tr>
<td>PET</td>
<td>0.9%</td>
<td></td>
</tr>
</tbody>
</table>

Packaging as % of weight

| PE                      | 15.0%                |
| Paper                  | <0.1%                |

Total plastics 70.4%  Total metals 14.6%  Total other and packaging 15.0%

Estimated recycled material content: 3% of weight.

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 and "International transport", 11806 miles (19000 km) by boat and 621 miles (1000 km) by truck, was used. This represents transportation of the Reference Product from our warehouse to the local point of distribution in the North American and European markets.

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 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:
  - plastic materials (excluding packaging): 79%
  - metal materials (excluding packaging): 17%

  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 and Europe.

The following modelling elements were taken into account:

- **Manufacturing**
  Unit packaging is 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 for both transport scenarios of intracontinental (default) and international.

- **Installation**
  The end of life of the packaging (0.02 lb or 11.1 g) is taken into account at this phase. Transport of packaging to end of life treatment. Per PSR0001 for communication and data cable, 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: The product covered in this PEP is typically considered a passive product. However, there is no existing PSR applicable to this type of product. Modelling elements for the cable and connectors derive from the current versions of PSR0001 and PSR0005 respectively.
  - 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 cable and connectors is calculated according standards in place for HDMI High Speed with Ethernet. This modelling duration does not constitute a minimum durability requirement.
  - Energy model: Two scenarios were modelled.
    - North America: Electricity(US) - 2009 [default]
    - Europe: Electricity(Europe) - 2002

- **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.

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### ENVIRONMENTAL IMPACTS (continued)

<table>
<thead>
<tr>
<th>Impact</th>
<th>Total for Life cycle</th>
<th>Raw material and manufacturing</th>
<th>Distribution</th>
<th>Installation</th>
<th>Use</th>
<th>End of life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global warming (GW)</td>
<td>5.04E-01 kg CO₂ eq.</td>
<td>3.37E-01</td>
<td>1.29E-02</td>
<td>1.34E-03</td>
<td>1.16E-01</td>
<td>3.65E-02</td>
</tr>
<tr>
<td>Ozone depletion (OD)</td>
<td>5.20E-08 kg CFC-11 eq.</td>
<td>4.84E-08</td>
<td>2.62E-11</td>
<td>3.42E-11</td>
<td>2.10E-09</td>
<td>1.47E-09</td>
</tr>
<tr>
<td>Acidification of soil and water (A)</td>
<td>1.25E-03 kg SO₂ eq.</td>
<td>1.05E-03</td>
<td>5.82E-05</td>
<td>5.10E-06</td>
<td>1.11E-04</td>
<td>3.10E-05</td>
</tr>
<tr>
<td>Water eutrophication (WE)</td>
<td>2.04E-04 kg PO₄³⁻ eq.</td>
<td>1.45E-04</td>
<td>5.81E-06</td>
<td>2.92E-05</td>
<td>1.13E-06</td>
<td>1.13E-05</td>
</tr>
<tr>
<td>Photochemical ozone creation (POCP)</td>
<td>1.18E-04 kg C₆H₆ eq.</td>
<td>9.31E-05</td>
<td>4.13E-06</td>
<td>3.98E-07</td>
<td>1.78E-05</td>
<td>2.99E-06</td>
</tr>
<tr>
<td>Depletion of abiotic resources - elements (ADPe)</td>
<td>3.98E-04 kg Sb eq.</td>
<td>3.98E-04</td>
<td>5.18E-10</td>
<td>8.62E-11</td>
<td>1.14E-09</td>
<td>7.81E-10</td>
</tr>
<tr>
<td>Total use of primary energy (PE)</td>
<td>9.55E+00 MJ</td>
<td>7.62E+00</td>
<td>1.74E-01</td>
<td>1.42E-02</td>
<td>1.56E+00</td>
<td>1.88E-01</td>
</tr>
<tr>
<td>Net use of fresh water (FW)</td>
<td>8.51E-03 m³</td>
<td>8.27E-03</td>
<td>1.16E-06</td>
<td>1.18E-06</td>
<td>2.05E-04</td>
<td>3.21E-05</td>
</tr>
<tr>
<td>Depletion of abiotic resources - fossil fuels (ADPf)</td>
<td>8.62E+00 MJ</td>
<td>6.43E+00</td>
<td>1.82E-01</td>
<td>1.91E-02</td>
<td>1.83E+00</td>
<td>1.52E-01</td>
</tr>
<tr>
<td>Water pollution (WP)</td>
<td>7.38E+01 m³</td>
<td>2.53E+01</td>
<td>2.13E+00</td>
<td>1.51E-01</td>
<td>5.71E+00</td>
<td>4.05E+01</td>
</tr>
<tr>
<td>Air pollution (AP)</td>
<td>7.99E+01 m³</td>
<td>6.85E+01</td>
<td>5.31E-01</td>
<td>1.59E-01</td>
<td>9.84E+00</td>
<td>9.31E-01</td>
</tr>
</tbody>
</table>

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.
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 for HDMI cables with varying wire gauges. Impacts for Distribution are proportional to the mass of the Reference Product. Impacts for Installation and Use are the same for all product types. Impacts for End of Life are proportional to the mass of the cable in the Reference Product.

For products sold in the European market, use the table for European Market Scenarios by applying the factors ’E<sub>D</sub>’ and ’E<sub>U</sub>’ to the impacts shown for Distribution and Use, respectively, in the main table below.

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.

### Wire Gauge | Manufacturing | Distribution | Use | End of Life
--- | --- | --- | --- | ---
30 AWG | 1.0 | 1.0E<sub>D</sub> | 1.0E<sub>U</sub> | 1.0
28 AWG | A: 1.6 OD: 1.6 all else: 1.3 | 1.2E<sub>D</sub> | 1.0E<sub>U</sub> | 1.3
24 AWG | AP: 1.7 FW: 1.4 all else: 1.0 | 1.2E<sub>D</sub> | 1.0E<sub>U</sub> | 1.2

### European Market scenarios

<table>
<thead>
<tr>
<th>Distribution in Europe (E&lt;sub&gt;D&lt;/sub&gt;)</th>
<th>Use in Europe (E&lt;sub&gt;U&lt;/sub&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: 10.8 AP: 5.7 WE: 4.6 POCP: 7.5 all else: 1.5</td>
<td>ADPe: 4.0 A: 6.7 OD: 11.4 POCP: 2.0 all else: 1.0</td>
</tr>
</tbody>
</table>

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Verifier’s accreditation number: VH02
Information and reference documents: www.pep-ecopassport.org
Date of issue: 10-2017
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”