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Product Environmental Profile
Danish Standard 2 P+E Tamperproof Socket with automatic connection terminals

PEP conforme au Programme "PEP ecopassport" selon les règles PEP-AP001 (Informations sur le site internet du programme : www.pep-ecopassport.org). Les règles d'analyse du cycle de vie sont disponibles sur demandes auprès de l'entreprise.

Legrand's environmental commitments

> Incorporate environmental management into our industrial units.

At present, 81 % of units worldwide and 92 % of our European units are ISO 14001-certified.

> 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 installations that consume less energy, are better managed and more environmentally friendly.

Product description

> Reference products for this environmental profile

The given values are based on the following items.

Function	**Danish Standard Socket - 2 P+E - tamperproof - with automatic connection terminals**		
Reference products			
	Cat. No. 802 51	**Cat. No. 775 09**	**Cat. No. 788 02**
	Support Frame - 2 Modules	**Danish Standard 2 P+E Tamperproof Socket**	**Mosaic Faceplate 2 modules**

> Products covered by this product environmental profile

Environmental impacts of the reference products are representative of the products covered by this PEP, which therefore constitute a homogeneous environmental family.

	Support Cat. Nos	Mechanism Cat. Nos	Faceplate Cat. Nos
Cat. Nos	802 50/51/52/53/54/59/61/64/66/67/68/69	775 08	788 01/02/03/04/06/07/08 788 10/11/14/15/16/18 788 22/23/25 788 30/32/36/37/38/39 788 42/43/44 788 54/56 788 64/66

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Constituent materials

These products contain no substances forbidden by regulations applicable at the time of their market launch, excluding maintenance operations carried out during the use phase.

Total weight of reference products: 83 g (unit packaging included)

Plastics as % of weight		**Metals** as % of weight		**Other** as % of weight	
Polycarbonate (PC)	34.40 %	Steel	22.70 %	Titanium dioxide (TiO_2)	1.30 %
ABS (Acrylonitrile-Butadiene-Styrene)	8.10 %	Copper (Cu)	6.70 %	Glass fibre	0.30 %
Polyamide (PA 66)	7.80 %	Zinc (Zn)	2.80 %	Carbon black	0.30 %
Polyethylene Terephthalate (PET)	2.50 %	100 % recycled Aluminium	0.10 %	Chrome (Cr)	0.10 %
Polytetrafluoroethylene (PTFE)	0.10 %				
				Other	0.03 %
				Packaging as % of weight	
				Cardboard	12.00 %
				Polypropylene (PP)	0.60 %
				Paper (50 % recycled)	0.09 %
Other	0.01 %	Other	0.04 %	Glue and ink	0.03 %
Total plastics	**52.91 %**	**Total metals**	**32.34 %**	**Total other and packaging**	**14.75 %**

Estimated recycled material content: 22 % by weight

Manufacture

These products are manufactured by a Legrand Group production unit which has received ISO 14001 environmental certification for design and manufacturing.

Distribution

Typical transport conditions

- On average this product covers 376 km by road transport from our production site to the nearest distributor to our customer.

Packaging

- The 10.60 g of packaging is composed of: 95 % cardboard and paper, 4.70 % Polypropylene (PP) and the remainder of glue and ink.
- Recycling potential: 100 % by weight of packaging
- Energy recovery potential: 100 % by weight of packaging

The packaging has been designed in accordance with the current applicable regulations:

- Directive 94/62/EC concerning packaging and packaging waste
- Decree 98-638 transposing the Directive into French law.

Legrand undertakes to:

- Reduce its packaging at source as much as possible in terms of weight and volume, in accordance with its customers' needs.
- Produce packaging with a heavy metal content of <100 ppm and without deliberately introducing N-class environmentally hazardous substances.
- Design and use packaging that is recoverable and where possible reusable.

PEP ecopassport n° LGRP-2011-174-v1-en

Use

Use scenario
This product dissipates 238 mW with an 8 A current, or a total energy consumption of 257.1 Wh for 54 hours of use per year for a period of 20 years.

Consumables
No consumables are necessary to use the product.

Servicing and maintenance
Normal conditions of use of this type of product require no servicing or maintenance.

End of life

Legrand is closely involved with implementing collection and management networks to enable the elimination of Waste Electrical and Electronic Equipment (WEEE). Our design teams take the end of life into account when designing equipment (marking, easy separation of parts, elimination of hazardous materials, etc...).

Product management

> Hazardous waste contained in the product:
This product contains no hazardous waste.

> Non-Hazardous waste contained in the product:
This product contains 73 g of non-hazardous waste (plastics, metals and others)

> Recycling potential:
The 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 chains, which are highly dependent on the local situation.
This product contains 98 % by weight of recyclable material (other than packaging):

- Plastic materials : 61 %
- Metal materials : 37 %

> Energy recovery potential:
Energy recovery consists in valorising 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 embodied in the waste.
This product contains 61 % by weight of materials that can be recovered for energy production (excluding packaging).

Environmental impacts

Methodology

The environmental impacts of the reference product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.
Assessment of the environmental impacts of the reference product concerns the following stages of the life cycle: raw materials, manufacture, distribution, and use.
The modelling assumptions for use are:

- Lifetime: 20 years
- This product dissipates 238 mW with an 8 A current, or a total energy consumption of 257.1 Wh for 54 hours of use per year for a period of 20 years.

Indicators (see glossary)	Overall M+D+U	Unit	Manufacture M	Distribution D	Use U
Depletion of natural resources	4.472E-16	Y-1	99 %	< 1 %	< 1 %
Total energy consumed	12.718	MJ	74 %	4 %	22 %
Consumption of water	4.640	dm^3	81 %	10 %	9 %
Contribution to the greenhouse effect	667.130	g~CO_2	78 %	2 %	20 %
Contribution to the depletion of the ozone layer	2.018E-04	g~CFC-11	91 %	3 %	6 %
Contribution to the creation of photochemical ozone	0.278	g~C_2H_4	78 %	5 %	17 %
Potential for acidification of the air	0.126	g~H^+	80 %	3 %	17 %
Production of hazardous waste	8.236E-03	kg	74 %	< 1 %	26 %

Modelling performed with EIME software, version 4.0, and its database in version 10.2 taken from the original 9.0 database.
Modelling of electricity consumption during the use phase: "Europe" module

(*) Period of use identified for the assessment of the environmental impacts.
This period of use is different from the life expectancy of the product and does not constitute a minimum durability requirement. It is the quantified expression of a unit of service rendered.

Glossary

Consumption of water	Indicates the total water consumption for the whole life cycle of the product.
Contribution to the creation of photochemical ozone	Indicates as g~C_2H_4 the gas emissions having an effect on the creation of photochemical ozone in the lower atmosphere (smog) under the effect of solar radiation.
Contribution to the depletion of the ozone layer	Indicates what all the life cycle phases of the product release as CFC-11 gram-equivalents.
Contribution to the greenhouse effect	Indicates what all the life cycle phases of the product release as CO_2 gram-equivalents. Example of the equivalence principle: 1 g of CO_2 = 1 g~CO_2; 1 g of CH_4 (methane) is equivalent to the effect of 64 g of CO_2, etc.
Depletion of natural resources	Indicates the depletion of natural resources, by considering the quantity of world reserves (minerals, fossils, etc.) for these resources and the current level of consumption. Expressed as a fraction of the reserves that disappear each year.
Eco-solution	Products or services enabling the reduction of a building's environmental impacts.
EIME	Environmental Information and Management Explorer - Product environmental impact modelling software based on the life cycle assessment methodology.
Energy recovery potential	% by weight of the product or packaging from which energy can be recovered. Energy recovery consists in valorising 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 embodied in the waste.
Hazardous waste	This is specific waste having a certain level of toxicity and requiring special treatment. Its definition is codified by the European community (Annex of Decision 2000/532/EC amended by Decisions 2001/118/EC and 2001/119/EC)
LCA	Compilation and assessment of inputs and outputs, as well as the potential environmental impacts of a product, or a system, during its life cycle, "from the cradle to the grave". This approach is described by standard ISO14040 and its related standards.
Life cycle approach	Method of taking into account all the life stages of a product (manufacture, installation, use and end of life) in order to determine the consequences for the environment.
Non-hazardous waste	This is made up of non-toxic waste and is of a similar nature to household waste. Its definition is codified by the European community (Annex of Decision 2000/532/EC amended by Decisions 2001/118/EC and 2001/119/EC)
Potential for acidification of the air	Indicates the potential for acidification of the air caused by the release of certain gases into the atmosphere. Expressed as H^+ ion gram-equivalent.
Production of hazardous waste	Indicates the weight of ultimate hazardous waste produced for the whole life cycle of the product.
Recoverable	Said of a product or packaging capable of being reused, recycled or from which it is possible to recover energy by incineration.
Recycling potential	% by weight of the product or packaging capable of being re-injected into a manufacturing circuit of the same product or another product.
Reference product(s)	Product (or product grouping) modelled in the presented LCA.
Reusable	Said of a product or packaging capable of being used for the same function provided the product's proper functionality is verified by the person carrying out the operation.
Total energy consumed	Indicates the total energy consumption in megajoules for the whole life cycle of the product.
WEEE (Waste Electrical and Electronic Equipment)	For products in the application area of the European Directive on Waste Electronic and Electrical Equipment (2002/96/EC), part of the product having to be treated selectively in compliance with Annex II of the Directive.