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Product Environmental Profile
IP 44 Weatherproof Plate
Mosaic Programme

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 product for this environmental profile
The given values are based on the following item.

Function	**IP 44 weatherproof plate – 2 modules – 1-gang** **Mosaic Programme**
Reference product	 **Cat. No. 788 80** **IP 44 weatherproof plate** **2 modules – 1-gang**

> Products covered by this product environmental profile
The reference products allow us to include the 1-gang IP 44 plate.
Environmental impacts of the reference products are representative of the products covered by this PEP, which therefore constitute a homogeneous environmental family.

Constituent materials

This product contains no substances forbidden by regulations applicable at the time of its market launch, excluding maintenance operations carried out during normal use.

Total weight of reference product: 43.4 g (unit packaging included)

Plastics as % of weight		**Metals** as % of weight		**Other** as % of weight	
ABS	32 %	Steel	2.3 %	Titanium dioxide	4.4 %
Polypropylene	21 %	Stainless steel	0.96 %	Oil (petroleum)	4.2 %
Polyethylene	6.3 %	Copper	0.47 %	Chalk	2.2 %
SEBS	4.8 %	Zinc	0.25 %		
				Packaging as % of weight	
				Paper/cardboard	21 %
				Polypropylene	0.12 %
Total plastics	64.1 %	Total metals	3.98 %	Total other and packaging	31.92 %

Estimated recycled material content: **20 %** by weight

Calculated on the basis of data on recycling in France, source: "Bilan du recyclage 1993-2003, Données et références", 2005 edition, published by the French Agency for the Environment and Energy Control (ADEME)

Manufacture

This product is manufactured by a Legrand Group production unit which has received ISO 14001 environmental certification for manufacturing.

Distribution

Typical transport conditions

On average this product covers 827 km by road transport from our production site to the nearest distributor to our customer (Basis for calculation: average distance calculated for products sold in France).

Packaging

- The 9.32 g packaging is composed of: 99.4 % paper and cardboard, 0.59 % plastic materials, the remainder being printing 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 convertible and where possible reusable.

Use

Use scenario
Electrical products can be divided into two main product families: "passive" or "active" products. Passive products dissipate energy through the joule effect, whereas active products consume power (motor, lighting, etc.).
In all cases a use scenario must be defined to quantify the energy consumed.

This product consumes no energy during its period of use of up to 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

Product management

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

> Non-hazardous waste contained in the product:
Plastics / metal / others: 34.11 g

> 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 **87 %** by weight of recyclable material (other than packaging):

- Plastic materials: 82 %
- Metal materials: 5 %

> 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.

87 % of this product's weight can be valorised through energy recovery.

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:

- This product consumes no energy during its period of use.
- Period of use (*): 20 years
- Unit packaging is also taken into account.

Indicators (see glossary)	Overall M+D+U	Unit	Manufacture M	Distribution D	Use U
Depletion of natural resources	3.37 E-17	years $^{-1}$	94.67 %	5.33 %	< 0.01%
Total energy consumed	4.47	MJ	89.53 %	10.47 %	1.90 %
Consumption of water	3.51	dm^3	92.43 %	7.57 %	1.14 %
Contribution to the greenhouse effect	293	g~CO_2	94.73 %	5.27 %	0.22 %
Contribution to the depletion of the ozone layer	2.36 E-05	g~CFC_{11}	70.15 %	29.85 %	0.17 %
Contribution to the creation of photochemical ozone	1.40 E-01	g~C_2H_4	90.10 %	9.9 %	< 0.01%
Potential for acidification of the air	4.21 E-02	g~H+	92.23 %	7.77 %	0.27 %
Production of hazardous waste	3.13 E-03	kg	99.54 %	0.46 %	0.35 %

Modelling performed using EIME software version 2.3 and its database in version 7.6.
Energy consumption modelling: EDF 2000

(*) 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 CO_2 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.
Convertible	Said of a product or packaging capable of being reused, recycled or from which it is possible to recover energy by incineration.
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 ISO 14040 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.
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 group) 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.