



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 the Group 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 and provide informations in compliance with ISO 14025**

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	Report an event, an alert, via an audible signal .This function is provided for 10 years by its external power supply.
Reference Product	
	Cat.No 0 413 49
	BELL - FOR INDUSTRIAL AND ALARM USE - IP 40 - IK 07 - 230 V~ - Ø100 MM GONG.

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 products:

Cat. Numbers	IP -IK	Acoustic output at 1m	Ø Gong
0 413 49	IP 40 - IK 07	95 dB	100 mm
0 414 19	IP 44 - IK 07	98 dB	150 mm
0 414 39			250 mm

Product Environmental Profile

Bells for industrial and alarm use



■ 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/EU.

Total weight of Reference Product	565 g (with unit packaging)
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Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	17.7 %	Steel	45.1 %	Cables / Electric wires	12.9 %
PA	2.5 %	Other metal	4.4 %	Paper	< 0.1 %
PS	0.5 %	Copper alloys	1.1 %		
		Al	< 0.1 %	Packaging as % of weight	
				Paper (packaging)	10.3 %
				Wood (packaging)	5.5 %
				PP (packaging)	< 0.1 %
Total plastics	20.7 %	Total metals	50.6 %	Total other and packaging	28.7 %

Estimated recycled material content: 28 % by mass.

Total weight of product 0 414 19	1111 g (with unit packaging)
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Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	16.4 %	Steel	54.0 %	Cables / Electric wires	6.6 %
PA	1.4 %	Other metal	2.2 %	Paper	< 0.1 %
PS	0.2 %	Copper alloys	0.5 %		
Other plastic	0.1 %	Al	< 0.1 %	Packaging as % of weight	
				Paper (packaging)	10.4 %
				Wood (packaging)	8.2 %
				PP (packaging)	< 0.1 %
Total plastics	18.1 %	Total metals	56.7 %	Total other and packaging	25.2 %

Estimated recycled material content: 30 % by mass.

Total weight of product 0 414 39	2627 g (with unit packaging)
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Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	7.6 %	Steel	62.7 %	Cables / Electric wires	2.8 %
PA	0.6 %	Other metal	0.9 %	Paper	< 0.1 %
PS	0.1 %	Copper alloys	0.2 %		
Other plastic	< 0.1 %	Al	< 0.1 %	Packaging as % of weight	
				Paper (packaging)	14.5 %
				Wood (packaging)	10.4 %
				PP (packaging)	0.2 %
Total plastics	8.3 %	Total metals	63.8 %	Total other and packaging	27.9 %

Estimated recycled material content: 31 % by mass.

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MANUFACTURE

This Reference Product comes from a site that have received ISO14001 certification.



DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 780 km by road from our warehouse to the local point of distribution into the market in Europe. Packaging is compliant with european directive 2004/12/EU concerning packaging and packaging waste. At their end of life, its recyclability rate is 98 % (in % of packaging weight).



INSTALLATION

For the installation of the product, only standard tools are needed.



USE

Under normal conditions of use, this product requires no servicing, no maintenance or additional products.



END OF LIFE

The product end-of-life factors are taken into account during the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse. This product falls within the scope of the WEEE directive (2012/19/EU). Therefore it must be processed through local WEEE recycling/recovery channels.

• Elements to process specifically:

In accordance with the requirements of this Directive, the following components must be removed and sent to specific channels for processing which comply with the WEEE Directive 2012/19/EU:

- plastic parts with brominated flame retardant : 117 g

• Extended producer responsibility:

The sale of this product is subject to a contribution to eco-organisations in each country responsible for managing end-of-life products in the field of application of the European Waste Electronic and Electrical Equipment Directive.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 90 %. This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for the end of life of this product.

Separated into:

- plastic materials (excluding packaging) : 20 %
- metal materials (excluding packaging) : 50 %
- other materials (excluding packaging) : 4 %
- packaging (all types of materials) : 16 %

For products covered by the PEP other than the Reference Product, the recyclability rates are :	0 414 19	0 414 39
- Estimated recyclability rate of the product:	93 %	97 %
- Plastic materials (excluding packaging) :	17 %	8 %
- Metal materials (excluding packaging) :	56 %	64 %
- Other materials (excluding packaging) :	2 %	1 %
- Packaging (all types of materials) :	18 %	24 %

Product Environmental Profile

Bells for industrial and alarm use



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 from products marketed and used in Europe, in compliance with the local current standards

For each phase, the following modelling elements were taken in account:

Manufacture	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
Distribution	Transport between the last Group distribution centre and an average delivery point in the sales area.
Installation	The end of life of the packaging.
Use	- Product category: active product. - Use scenario: for a 10 years working life, in non continuous operation at 100 % of rated load 8.9 W 5 minutes per day all the time. This modelling duration does not constitute a minimum durability requirement. - Energy model: Electricity Mix ; Europe 27 - 2002.
End of life	The default end of life scenario maximizing the impacts.
Software and database used	EIME V5 and its database «CODDE-2015-04»



SELECTION OF ENVIRONMENTAL IMPACTS

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Global warming	4.35E+00	kgCO ₂ eq.	2.69E+00	62 %	2.19E-02	< 1 %	5.20E-03	< 1 %	1.60E+00	37 %	4.11E-02	< 1 %
Ozone depletion	5.15E-07	kgCFC-11 eq.	1.26E-07	24 %	4.45E-11	< 1 %	2.88E-11	< 1 %	3.88E-07	75 %	6.99E-10	< 1 %
Acidification of soils and water	1.73E-02	kgSO ₂ eq.	4.93E-03	28 %	9.86E-05	< 1 %	2.48E-05	< 1 %	1.21E-02	70 %	1.64E-04	< 1 %
Water eutrophication	1.68E-03	kg[PO ₄] ³⁻ eq.	9.51E-04	57 %	2.27E-05	1 %	2.08E-05	1 %	4.53E-04	27 %	2.28E-04	14 %
Photochemical ozone formation	1.26E-03	kgC ₂ H ₄ eq.	6.64E-04	53 %	7.01E-06	< 1 %	1.75E-06	< 1 %	5.71E-04	45 %	1.26E-05	1 %
Depletion of abiotic resources - elements	8.18E-04	kgSb eq.	8.18E-04	100 %	8.79E-10	< 1 %	2.21E-10	< 1 %	7.28E-08	< 1 %	2.24E-09	< 1 %
Total use of primary energy	1.09E+02	MJ	7.54E+01	69 %	3.10E-01	< 1 %	7.41E-02	< 1 %	3.24E+01	30 %	5.98E-01	< 1 %
Net use of fresh water	4.30E-02	m ³	3.88E-02	90 %	1.96E-06	< 1 %	1.30E-06	< 1 %	4.17E-03	10 %	2.47E-05	< 1 %
Depletion of abiotic resources - fossil fuels	5.01E+01	MJ	3.27E+01	65 %	3.08E-01	< 1 %	7.25E-02	< 1 %	1.65E+01	33 %	5.66E-01	1 %
Water pollution	7.93E+02	m ³	7.16E+02	90 %	3.61E+00	< 1 %	8.18E-01	< 1 %	6.71E+01	8 %	5.18E+00	< 1 %
Air pollution	7.49E+02	m ³	6.75E+02	90 %	9.00E-01	< 1 %	5.24E-01	< 1 %	6.85E+01	9 %	3.74E+00	< 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.

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SELECTION OF ENVIRONMENTAL IMPACTS (CONTINUED)

For products covered by the PEP other than the Reference Product, the environmental impacts of each phase of the lifecycle are calculated with the coefficient table below:

The use phase do not represent significant differences with the Reference Product	Rate 0 414 19				Rate 0 414 39			
	Manufacturing	Distribution	Installation	End of life	Manufacturing	Distribution	Installation	End of life
Global warming	1.8	2	2.3	1.8	3.4	4.6	6.9	3.4
Ozon depletion	1.4		2.1	1.6	1.8		5.7	2.2
Acidification of soil and water	1.9		2.2	1.8	4.3		6.8	3.5
Water eutrophication	1.7		2.1	1.9	3.2		5.3	4.0
Photochemical ozone creation	2		2.2	1.8	4.3		6.8	3.5
Depletion of abiotic resources - elements	1			1.7	1			3
Total use of primary energy during the life cycle	2		2.3	1.8	4.6		6.9	3.3
Net use of fresh water	1.4		2.1	1.6	2.4		5.6	2.3
Depletion of abiotic resources - fossil fuels	1.8		2.3	1.8	3.2		6.9	3.3
Water pollution					2.2		7	3.7
Air pollution	1.4		2.1	1.7	2.4		5.6	2.7

Registration N°: LGRP-00143-V01.02-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0005-ed1-2012 12 11»
Verifier accreditation N°: VH23	Information and reference documents : www.pep-ecopassport.org
Date of issue: 06-2016	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»	
Environmental data in alignment with EN 15804 : 2012 + A1 : 2013	

