

Product Environmental Profile

Pass & Seymour: Plastic Wall Boxes



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.



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

Function	Allows the installation of various electrical equipment within a wall of a building by providing an enclosure for electrical connections and a mounting means for electrical equipment for a lifetime of 20 years.
Reference Product	 <p style="text-align: center;">Part Number: S122R</p> <p style="text-align: center;">Plastic Wall Box, 22.5 CU IN Single Gang Deep With Quick/Click and Captive Mounting Nails</p>

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.

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PRODUCTS CONCERNED

The environmental data is representative of the following products:

Nail On Wall Boxes: S118R, S122R, S235RAC, S235RACMH, S354RAC, S468RAC, P118R, P118RN, P122R, P122RN, PH122R, P235RAC, P235RACMH, P354RACMH

Screw Mount Wall Boxes: S118RS, S122RS, S235RACS, S235RACSMH, S354RACS, S468RACS

Swing Bracket Wall Boxes: S116W, S118W, S122W, S232W, S352W, P116W

Wood & Steel Stud Bracket Wall Boxes: S118S50, S118B50, S122S50, S235S50AC, S354S50AC, S468S50AC



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.

Total weight of Reference Product (with unit packaging)	117.9 g (4.2oz)
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Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	71.0%	Steel	10.0%		
Packaging					
PE	<0.1%			Wood	10.6%
				Paper/Cardboard	8.4%
Total plastics	71.0%	Total metals	10.0%	Total other and packaging	19.1%

Estimated recycled material content: 10% of weight.

Masses and percent materials vary with the series and gang of the product. Values are given in the table below. If the listed product has a percent material value within 5 percentage points of the reference product, the designation "RP" is shown. All products have a recycled content within 5 percentage points of the reference product.

	Nail On/Screw Mount					Swing Bracket				Stud Bracket				
	1 Gang	1 Gang +	2 Gang	3 Gang	4 Gang	1 Gang	1 Gang +	2 Gang	3 Gang	1 Gang	1 Gang +	2 Gang	3 Gang	4 Gang
Total Mass (g)	107	118	168	198	267	113	119	141	212	132	143	190	225	290
PC	RP		78%	79%		RP				58%	60%	RP		
steel	RP					RP				25%	23%	18%	15%	RP
wood	RP				5%	RP				RP				
paper/cardboard	RP					RP				RP				
PE	RP					RP				RP				

- 1 gang + indicates a 1 gang box that is extra deep (like the reference product). - The swing bracket wallbox series doesn't currently have a 4 gang model.



MANUFACTURING

The Reference Product comes from sites that have 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 average distance of 1200 km by heavy truck was used. This represents the average transportation distance of the Reference Product from our warehouse to the local point of distribution in the North American market.

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INSTALLATION

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



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 comes from this Reference Product
 (*) 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 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:	(% mass of Reference Product)
- plastic materials (excluding packaging):	67%
- metal materials (excluding packaging):	10%
- other materials (excluding packaging):	0%
- packaging materials:	19%



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. 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 (22.4 g) is taken into account at this phase. Transport of packaging to end of life treatment.
Use	<ul style="list-style-type: none"> • 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: Enclosure • Use scenario: Based on PSR0005--ed2-EN-2016 03 29, for a 20 year working life, the reference product consumes no energy. This modelling duration does not constitute a minimum durability requirement • Energy model: Electricity (United States) - 2009
End of life	The default end of life scenario modelled maximizes the environmental impact. In accordance with the requirements of the PCR of the "PEP ecopassport" program, transport of the reference product by truck over a distance of 1000 km to a processing site at end of life was accounted for.
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

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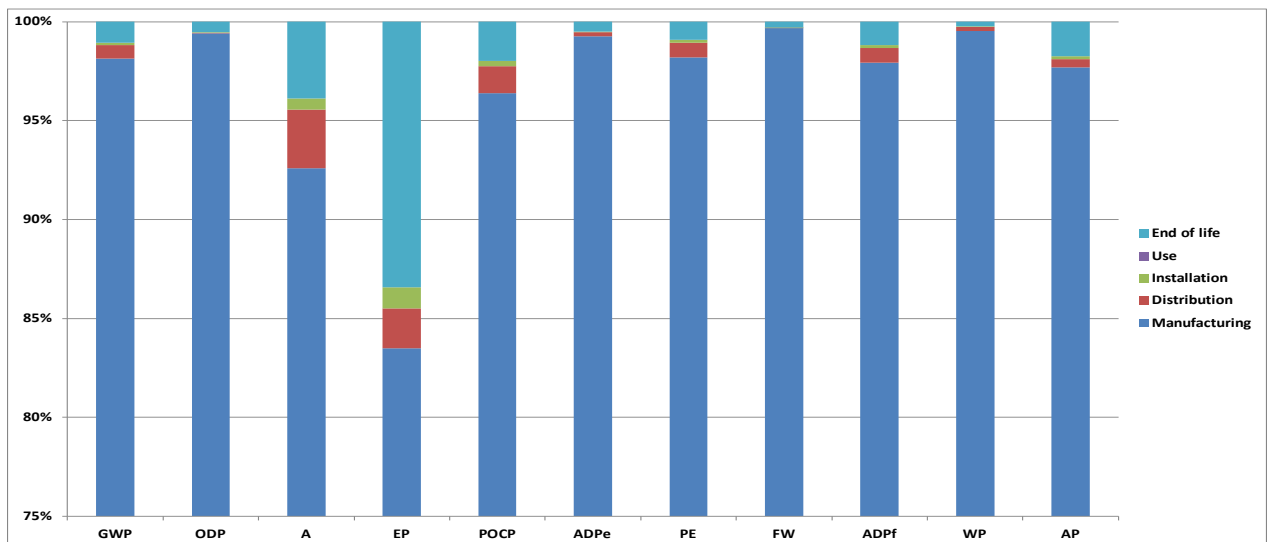


ENVIRONMENTAL IMPACTS (continued)

	Total for Life cycle		Raw material and manufacturing		Distribution		Installation		Use		End of life	
	Value	Unit	Value	%	Value	%	Value	%	Value	%	Value	%
Global warming (GW)	1.03E+00	kgCO2 eq.	1.01E+00	98%	7.04E-03	< 1%	1.25E-03	< 1%	0.00E+00	0%	1.08E-02	1%
Ozone depletion (OD)	4.83E-08	kgCFC-11 eq.	4.80E-08	99%	1.43E-11	< 1%	5.70E-12	< 1%	0.00E+00	0%	2.61E-10	< 1%
Acidification of soil and water (A)	1.07E-03	kgSO2 eq.	9.87E-04	93%	3.16E-05	3%	5.85E-06	< 1%	0.00E+00	0%	4.14E-05	4%
Water eutrophication (WE)	3.64E-04	kg(P04)3- eq.	3.04E-04	84%	7.27E-06	2%	3.94E-06	1%	0.00E+00	0%	4.89E-05	13%
Photochemical ozone creation (POCP)	1.63E-04	kgC2H4 eq.	1.57E-04	96%	2.25E-06	1%	4.14E-07	< 1%	0.00E+00	0%	3.22E-06	2%
Depletion of abiotic resources - elements (ADPe)	1.37E-07	kgSb eq.	1.36E-07	99%	2.82E-10	< 1%	5.22E-11	< 1%	0.00E+00	0%	6.78E-10	< 1%
Total use of primary energy (PE)	1.25E+01	MJ	1.23E+01	98%	9.44E-02	< 1%	1.65E-02	< 1%	0.00E+00	0%	1.15E-01	< 1%
Net use of fresh water (FW)	3.01E-03	m3	3.00E-03	100%	6.30E-07	< 1%	2.56E-07	< 1%	0.00E+00	0%	9.03E-06	< 1%
Depletion of abiotic resources - fossil fuels (ADPf)	1.29E+01	MJ	1.27E+01	98%	9.89E-02	< 1%	1.74E-02	< 1%	0.00E+00	0%	1.53E-01	1%
Water pollution (WP)	5.44E+02	m3	5.41E+02	100%	1.16E+00	< 1%	1.99E-01	< 1%	0.00E+00	0%	1.24E+00	< 1%
Air pollution (AP)	7.08E+01	m3	6.92E+01	98%	2.89E-01	< 1%	1.04E-01	< 1%	0.00E+00	0%	1.23E+00	2%

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. The values of these impacts are valid for the context specified in this document. They must not be used directly to draw up the environmental balance sheet for the installation.

% Environmental Impact per Life Cycle Stage of Reference Product



The environmental impact of the Reference Product occurs predominantly during the Manufacturing phase.



ENVIRONMENTAL IMPACTS (continued)

In order to obtain the environmental impacts for items covered under the products concerned section of this report, apply the following rules for each case.

1. For all nail on, screw mount, and swing bracket boxes the environmental impacts are proportional to the weight of the plastic box without the steel hardware in comparison to the reference product. First obtain the ratio of the weight of the plastic box of the product concerned to the weight of the plastic box of the reference product. Multiply all environmental impact values of the reference product by this ratio in order to get the impact values for the product concerned.
2. For all steel bracket stud wall boxes, there is an extra multiplier that needs to be applied since there is significantly more steel used in the mounting means of the product. For any of these boxes listed under the products concerned section, first multiply only the manufacturing, distribution, and end of life environmental impacts of the reference product by a factor of 1.2. This will give the environmental impact values for the S122S50 wall box. To get the impact values for any of the other steel bracket boxes, now apply rule 1 above once the 1.2 factor has already been applied.

Registration number: LGRP-00577-V01.01-EN	Drafting rules: "PCR-ed3-EN-2015 04 02"
Verifier's accreditation number: VH02	Information and reference documents: www.pep-ecopassport.org
Date of issue: 10-2018	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025:2010 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/>	
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 compliance with ISO 14040:2006: "Environmental management - LCA - Principles and framework"	
In compliance with ISO 14044:2006: "Environmental management - LCA - Requirements and guidelines"	
In alignment with EN 15804:2012+A1:2013: "Sustainability of construction works - EPD's - Core rules for the product category of construction products"	