

# Product Environmental Profile

## Pass & Seymour TradeMaster Grounding Toggle Switches



### LEGRAND COMPANY OVERVIEW

**• Designed to Be Better – Our Commitment to Sustainability**

At Legrand®, our sustainability commitment translates into greater benefits and tangible value for our customers, business partners, employees, and the broader community.

**• Better Performance**

We provide building solutions to meet many building performance goals from sustainability and energy efficiency to productivity and occupant well being. The right choice in network and electrical infrastructure can play a key role in many facets of building performance. Our products help ensure electrical safety. They offer choice and flexibility in space design. They are designed to reduce installation time and material waste on site. Because we know buildings consume a great deal of energy, we offer a range of products and solutions that reduce energy consumption from lighting to plug load to data centers.

**• Better Solutions**

We offer a wide range of innovative solutions for the building, while constantly evolving our design and development processes to improve the environmental profile of our products. Through active monitoring and research, we serve as an expert resource for market trends and building and product performance standards to keep our customers at the top of their game.

**• Better Operations**

We focus on operational excellence because we believe optimizing the way we manage energy, water and waste is not only good for the environment, it's good for business. As part of the Department of Energy's Better Building, Better Plants Challenge (BBBP) Legrand has reduced its energy intensity by over 30% across 14 sites in the United States in just three years. Integrating sustainability into the way we run our operations makes us more competitive – and a better business partner.



For information on Legrand PEP's and other sustainability initiatives, scan the QR code to be brought to our Product Sustainability page.



### 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

<p><b>Function</b></p>	<p>Mecanism which allows the user to manually interrupt electrical current to a load on an electrical circuit. This mecanism and a wall plate ensure the interruption of an electrical current up to 15A 277V per US standard UL20 and up to 15A 347V per Canadian Standard C22.2 111. 20 years expected lifetime.</p>
<p><b>Reference Product</b></p>	<div style="text-align: center;">  </div> <p>Part Number: 660WG Single Pole Toggle Switches Grounding</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:

#### Description

- 660IG, -G, -BKG, -LAG
- 663IG, -G, -BKG, -LAG
- 664IG, -G, -BKG, -LAG, -ICN, -WCN



### 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/CE.

<b>Total weight of Reference Product (with unit packaging)</b>		<b>2 oz (61 g)</b>			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
PS	13.6%	Steel	43.8%		
PVC	7.8%	Cooper and Alloys	5.5%		
Other Plastics	6.2%				
PC	3.1%				
				<b>Packaging as % of weight</b>	
				Paper	15.9%
				Wood	3.9%
<b>Total plastics</b>	<b>30.8%</b>	<b>Total metals</b>	<b>49.3%</b>	<b>Total other and packaging</b>	<b>19.8%</b>

Estimated recycled material content: 25% of weight.



### MANUFACTURING

This Reference Product comes from sites that have initiated an environmental certification.



### DISTRIBUTION

Products are distributed from logistics centers located to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 1200 miles by truck from our warehouse to the local point of distribution into the market in North America.



### INSTALLATION

For the 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 the Reference Product.



### END OF LIFE

Development teams integrate product end-of-life factors in the design phase.

• **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 product is estimated as 93%. 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):	23%
- metal materials (excluding packaging):	49%
- packaging (all types of materials):	20%



### 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:

<b>Manufacturing</b>	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.
<b>Distribution</b>	Transport between the last distribution center and an average delivery to the sales area.
<b>Installation</b>	Installation components not delivered with the product are not taken into account. The end-of-life of the packaging is taken into account at this phase.
<b>Use</b>	<ul style="list-style-type: none"> <li>• Under normal conditions of use, this type of product requires no servicing or maintenance.</li> <li>• No consumables are necessary to use this type of product.</li> <li>• Product category: Passive product - non-continuous operation”as defined in PSR PSR-0005-ed1-EN -2012 12 11</li> <li>• Use scenario: non-continuous operation for 30 years at 30% of rated load at 30% of the time. This modelling duration does not constitute a minimum durability requirement.</li> <li>• Energy model: US ; Electricity mix; AC; consumption mix, at consumer; 120V; 2009</li> </ul>
<b>End of life</b>	The default end of life scenario maximizing the environmental impacts 1000km by truck assumption used for the end of life.
<b>Software used</b>	EIME V5 and its database “CODDE-2015-04” and the indicators defined in the PCR ed3 in alignment with the EN 15804 standard.

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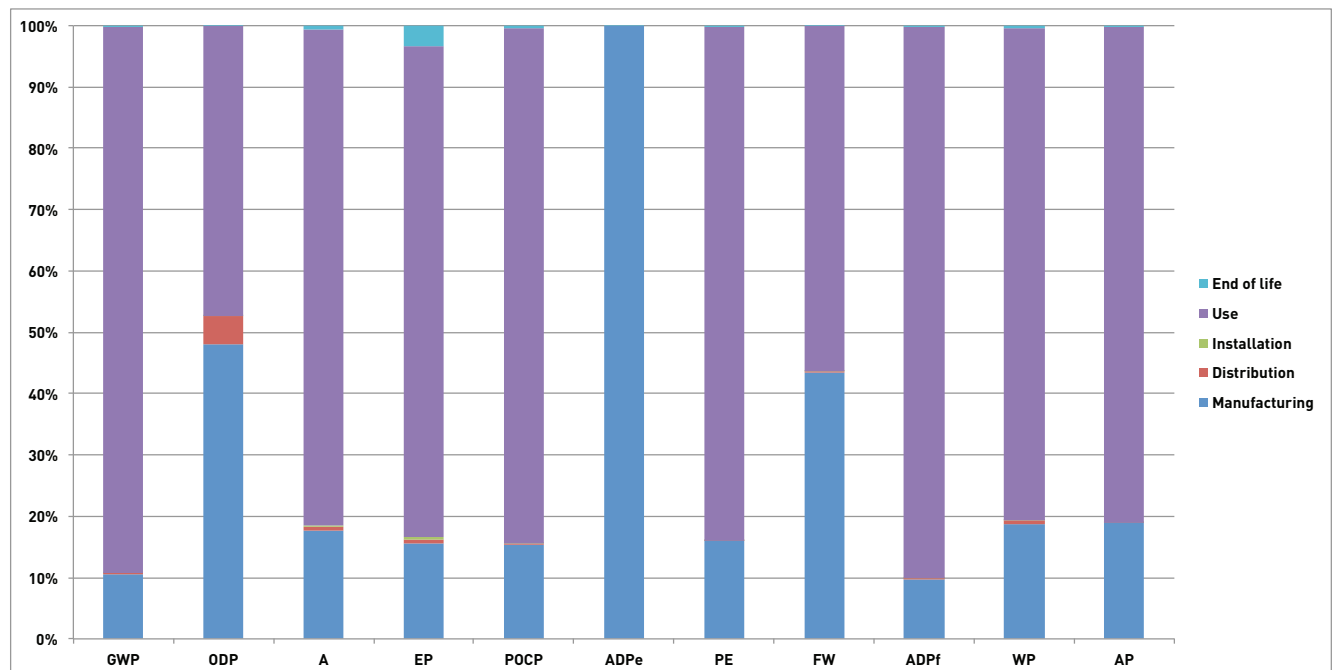


## ENVIRONMENTAL IMPACTS (continued)

	Total for Life cycle		Raw material and manufacturing		Distribution		Installation		Use		End of life	
	Value	Unit	Value	%	Value	%	Value	%	Value	%	Value	%
Global warming	2.42E+00	kgCO <sub>2</sub> eq.	2.55E-01	11%	5.34E-03	< 1%	6.01E-04	< 1%	2.16E+00	89%	4.18E-03	< 1%
Ozone depletion	8.29E-08	kgCFC-11 eq.	3.99E-08	48%	3.79E-09	5%	4.10E-12	< 1%	3.92E-08	47%	6.99E-11	< 1%
Acidification of soils and water	2.55E-03	kgSO <sub>2</sub> eq.	4.53E-04	18%	1.44E-05	< 1%	2.95E-06	< 1%	2.07E-03	81%	1.68E-05	< 1%
Water eutrophication	6.88E-04	kg(PO <sub>4</sub> ) <sup>3-</sup> eq.	1.07E-04	16%	3.86E-06	< 1%	3.18E-06	< 1%	5.50E-04	80%	2.35E-05	3%
Photochemical ozone formation	3.94E-04	kgC <sub>2</sub> H <sub>4</sub> eq.	6.06E-05	15%	3.12E-07	< 1%	2.08E-07	< 1%	3.31E-04	84%	1.28E-06	< 1%
Depletion of abiotic resources - elements	3.40E-05	kgSb eq.	3.40E-05	100%	9.79E-13	< 1%	2.61E-11	< 1%	2.12E-08	< 1%	2.26E-10	< 1%
Total use of primary energy	4.41E+01	MJ	7.01E+00	16%	6.77E-02	< 1%	8.60E-03	< 1%	3.70E+01	84%	6.07E-02	< 1%
Net use of fresh water	6.77E-03	m <sup>3</sup>	2.95E-03	44%	6.43E-06	< 1%	1.88E-07	< 1%	3.82E-03	56%	2.48E-06	< 1%
Depletion of abiotic resources – fossil fuels,	3.80E+01	MJ	3.67E+00	10%	6.75E-02	< 1%	8.36E-03	< 1%	3.42E+01	90%	5.76E-02	< 1%
Water pollution	1.33E+02	m3	2.49E+01	19%	7.90E-01	< 1%	9.30E-02	< 1%	1.06E+02	80%	5.30E-01	< 1%
Air pollution	2.27E+02	m3	4.28E+01	19%	1.88E-01	< 1%	7.60E-02	< 1%	1.84E+02	81%	3.76E-01	< 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.

% Environmental Impact per Life Cycle Stage of Reference Product



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## 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: To get the impact for the 663 you have to multiply the 660 results by the correction factor in the table below. Same process to get the impacts values of the 664, except for the value of the indicator ABIOTIC DEPLETION (elements) for the manufacturing phase. For this one multiply the impact value by 13.5. 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.

Part Number	Manufacturing	Distribution	Installation	Use	End of Life
663	1.6	1.0	1.0	3.3	1.2
664	3 (except ADPe) take 13.5	1.6	1.8	4.8	1.5

Registration number: LGRP-00026-V01.01-EN	Drafting rules: "PCR-ed3-EN-2015 04" Supplemented by PSR-0005-ed1-EN -2012 12 11 - Electrical switchgear and controlgear solutions
Verifier's accreditation number: VH02	Information and reference documents: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 09-2015	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.	
Documents 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"	