

# Product Environmental Profile

## Zucchini MS prefabricated busbar



### BTICINO'S ENVIRONMENTAL COMMITMENTS

Home automation, high range civil installation and canalisation systems are types of products in which BTicino excels on the Italian market. BTicino, as a responsible producer, adopts an environmental policy declined according to three axes:

• **Incorporate environmental management into our industrial sites**

BTicino is concerned with the protection and preservation of the environment from the manufacture of its products.

For this reason, all sites are ISO 14001 certified or committed to implementation of an environmental responsible management policy.

• **Involve the environment in product design**

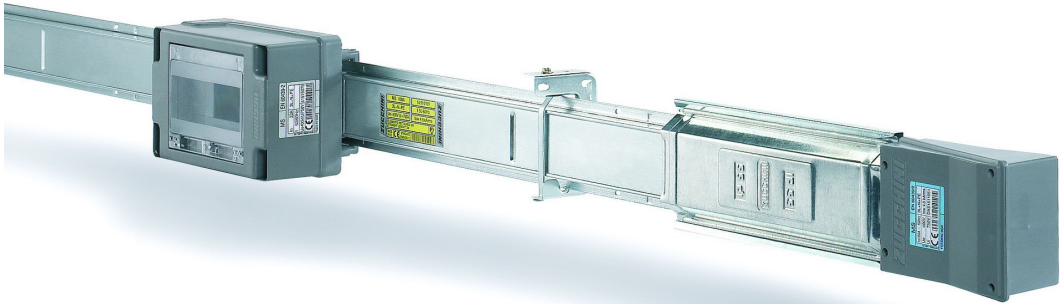
A product generates environmental impacts throughout its whole life cycle. For this reason, BTicino is committed to minimize the environmental impact of its products and provides its customers all relevant information (composition, consumption, end of life ...).

• **Offer our customers environmentally friendly solutions**

BTicino offers to its customers solutions to reduce the energy and environmental impact of commercial, residential and industrial buildings: solutions that allow to consume less energy in according to the real needs.



### REFERENCE PRODUCT

<p><b>Function</b></p>	<p>Allow the power supply up to 160A in industrial and tertiary buildings along 1 meter for a reference service life of 20 years, in compliance with the harmonised standards IEC 60439-1 and 2. The system, realized with the Zucchini MS product range, includes straight elements, power supplies, plug-in boxes and brackets used in a typical installation. PCR category: passive product.</p>
<p><b>Reference Products</b></p>	<div style="text-align: center;">  </div> <p style="text-align: center;">                     ZU-51510101 - ZU-51511051 - ZU-51511052 - ZU-51501351 - ZU-51500161                      ZU-51002002 - ZU-51515052 - ZU-51515051 - ZU-51515076 - ZU-51515067 - ZU-51515056                      Zucchini MS prefabricated busbar - MS 100A system                 </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.



### CONCERNED PRODUCTS

The environmental data represent the following Catalogue Numbers: the total medium power busbar MS system product range, as presented in all relevant catalogues (list available on request at the Customer Service).

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### ■ CONSTITUENT MATERIALS

This product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. At the date of publication of this document, this product contains no substances to which the RoHS directives apply (2002/95/EC and review 2011/65/EU) and none of the 163 candidate substances of the REACH regulation dated 15/06/2015.

<b>Total weight of Reference Products:</b>	<b>2431 g</b> (unit packaging included)				
Plastics as % of weight		Metals as % of weight		Other as % of weight	
Polyamide	11,1 %	Steel	62,7 %	Cables / Electric wires	0,1 %
PBT	1,4 %	Aluminium	16,2 %	Packaging as % of weight	
Polycarbonate	0,2 %	Copper alloys	5,6 %	Cardboard / Paper	2,3 %
SBS	0,1 %			Polyethylene (LDPE)	0,1 %
Other plastics	0,2 %			Polypropylene	< 0,1 %
<b>Total plastics</b>	<b>13,0 %</b>	<b>Total metals</b>	<b>84,5 %</b>	<b>Total other and packaging</b>	<b>2,5 %</b>

Estimated recycled material content: 39 % by weight

For the MS 160A system, the list of constituent materials is the following:

<b>Total weight of MS 160A system</b>	<b>3434 g</b> (unit packaging included)				
Plastics as % of weight		Metals as % of weight		Other as % of weight	
Polyamide	7,3 %	Copper alloys	45,0 %	Cables / Electric wires	0,1 %
PBT	1,0 %	Steel	44,3 %	Packaging as % of weight	
Polycarbonate	0,1 %			Cardboard / Paper	1,9 %
SBS	0,1 %			Polyethylene (LDPE)	0,1 %
Other plastics	0,1 %			Polypropylene	< 0,1 %
<b>Total plastics</b>	<b>8,6 %</b>	<b>Total metals</b>	<b>89,3 %</b>	<b>Total other and packaging</b>	<b>2,1 %</b>

Estimated recycled material content: 32 % by weight



### ■ MANUFACTURE

These products come from site that has received ISO 14001 certification.



### ■ DISTRIBUTION

The Group's products are distributed from logistics centres located to optimize transport efficiency.

The Reference Product is therefore transported over an average distance of 780 km, essentially by road, representing a marketing in Europe.

Packaging is compliant with with european directive 2004/12/EC concerning packaging and packaging waste.

At the packaging end of life, its recycling rate is of 94 % (as % of packaging weight).



### ■ INSTALLATION

Installation components not delivered with the product are not taken into account.

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### 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 products.



### END OF LIFE

Development teams integrate product end of life factors in the design phase. Dismantling and sorting of components or materials is made as easier as possible with a view to recycling or failing that, another form of reuse.

#### • Recyclability rate:

Calculated using the method described in the IEC/TR 62635 technical report, the recyclability rate of the product is estimated as 98 %. 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:

- Plastic materials (excluding packaging): 12 %
- Metal materials (excluding packaging): 84 %
- Packaging (all types of materials): 2 %



### ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end of life of the product marketed and used in Europe. The following modelling elements were taken into account:

- the analyzed system is composed by 82 x ZU-51510101, 10 x ZU-51511051, 4 x ZU-51511052, 11 x ZU-515101351, 27 x ZU-51500161, 167 x ZU-51002002, 30 x ZU-51515052, 19 x ZU-51515051, 14 x ZU-51515076, 7 x ZU-51515067, 4 x ZU-51515056;
- the system total length is 250 meters and its environmental impacts are reconducted to 1 meter length.

<b>Manufacture</b>	Unit packaging taken in account. As required by the «PEP ecopassport» programme all transports for the manufacturing of the Reference Product, including materials and components, has been taken in account.
<b>Distribution</b>	Transport between the last Group distribution centre and an average delivery to the sales area.
<b>Installation</b>	Installation components not delivered with the product are not taken into account.
<b>Use</b>	<ul style="list-style-type: none"> <li>• Maintenance: under normal conditions of use, this type of product requires no servicing or maintenance.</li> <li>• No consumables are necessary to use the Reference Product.</li> <li>• Product category: passive product.</li> <li>• Use scenario: non-continuous operation for 20 years at 30% of rated load for 30% of the time. This modelling duration does not constitute a minimum durability requirement.</li> <li>• Energy model: Electricity mix Europe 2005.</li> </ul>
<b>End of life</b>	In view of the data available on the date of creation of the document, and in accordance with the requirements of the PCR of the « PEP ecopassport » programme, was counted transport of the Reference Product by road only once, over a distance of 1000 km, to a processing site at end of life.
<b>Software used</b>	EIME V5 and its database «Legrand-2012-10-31 version 3» developed from database «CODDE-2012-07».

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### ENVIRONMENTAL IMPACTS

		Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Mandatory indicators	Contribution to greenhouse effect	6.87E+04	g-CO <sub>2</sub>	1.39E+04	20%	3.74E+02	<1%	0,00E+00	0%	5.41E+04	79%	2.88E+02	<1%
	Damage to the ozone layer	4.65E-03	g-CFC-11	1.24E-03	27%	2.64E-04	6%	0,00E+00	0%	2.94E-03	63%	2.03E-04	4%
	Eutrophisation of water	9.06E-01	g-PO <sub>4</sub> <sup>3-</sup>	7.68E-01	85%	6.22E-03	<1%	0,00E+00	0%	1.27E-01	14%	4.78E-03	<1%
	Photochemical ozone formation	2.37E+01	g-C <sub>2</sub> H <sub>4</sub>	4.24E+00	18%	3.24E-01	1%	0,00E+00	0%	1.89E+01	80%	2.50E-01	1%
	Acidification of the air	9.96E+00	g-H <sup>+</sup>	2.62E+00	26%	4.76E-02	<1%	0,00E+00	0%	7.25E+00	73%	3.66E-02	<1%
	Total energy consumed	1.31E+03	MJ	2.31E+02	18%	4.73E+00	<1%	0,00E+00	0%	1.07E+03	82%	3.64E+00	<1%
	Consumption of water	2.57E+02	dm <sup>3</sup>	1.01E+02	39%	4.48E-01	<1%	0,00E+00	0%	1.55E+02	60%	3.45E-01	<1%
Optional indicators	Depletion of natural resources	3.86E-14	years <sup>-1</sup>	3.74E-14	97%	6.44E-18	<1%	0,00E+00	0%	1.22E-15	3%	4.96E-18	<1%
	Toxicity of the air	1.33E+07	m <sup>3</sup>	4.26E+06	32%	7.04E+04	<1%	0,00E+00	0%	8.96E+06	67%	5.42E+04	<1%
	Toxicity of the water	1.88E+01	dm <sup>3</sup>	3.15E+00	17%	5.21E-02	<1%	0,00E+00	0%	1.55E+01	83%	4.01E-02	<1%
	Production of hazardous waste	1.67E+00	kg	7.73E-01	46%	1.39E-04	<1%	0,00E+00	0%	8.97E-01	54%	1.07E-04	<1%

The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.

Extrapolation rule: the environmental impacts of the products of the homogeneous family different from those of reference, for every life cycle phase and for every meter of installation, are obtained by multiplying those of the Reference Products by these coefficients:

MS System	Total	Raw material and manufacture	Distribution	Installation	Use	End of life
MS System - 63 A	0,8	0,9	1,0	-	0,8	1,0
<b>MS System - 100 A</b>	<b>1,0</b>	<b>1,0</b>	<b>1,0</b>	<b>-</b>	<b>1,0</b>	<b>1,0</b>
MS System - 160 A	2,0	3,0	1,4	-	1,9	1,4

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.

Registration number: LGRP-2015-218-v1-en	Drafting rule: PEP-PCR-ed2.1-FR-2012 12 11 and PSR-0005-ed1-FR-2012 12 11
Authorisation number of checker: VH02	Programme information: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 07-2015	Validity period: 4 years
Independent verification of the declaration and data, in accordance with ISO 14025:2006 Interne <input checked="" type="checkbox"/> Externe <input type="checkbox"/>	
In accordance with ISO 14025 :2006 Type III environmental declaration	
The critical review of the PCR was conducted by a panel of experts chaired by J.Chevalier (CSTB)	
The elements of the present PEP cannot be compared with elements from another programme	

