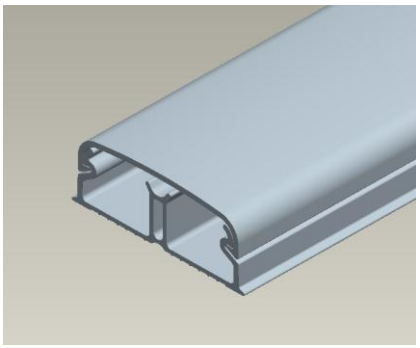
Product Environmental Profile

Wireway

Linea Minicali TM Optima

This document is based on the principles of ISO 14020, ISO 14025 and IEC PAS62545 standards.

Reference product & Fonctional unit



▪ Reference product

This environmental declaration deals with the Linea Minicali TM Optima wireway (TM 32/2X12,5 COD. 08803). The function of this product is to stick and protect cables.
Specialising in the manufacturing of trunking and wiring systems, conduits, panels, enclosures and junction boxes, Bocchiotti provides a comprehensive range of top quality products developed through their constant commitment to research and focus on understanding different cultures and technical needs in the various markets.

▪ Functional unit

The product belongs to the general category 3: enclosures, and more particularly to the function N°2 of the wireway PSR: “Moulding and baseboard system”

The functional unit is:

“Stick and protect the wiring and the equipment along 1 meter during 20 years.
The 250mm² wireway system include the wireway itself plus accessories representing a standard using.”

▪ Covered products

This environment declaration includes a family of product including the reference product. The family contains products with the same function, standards and manufacturing technology.

The products represented in the family are:

Product	Reference	Section (mm²)	Mass without packaging (g)
TM 32/2X12,5	08803	250	187
TM 22/2x12,5	08801	140	156
TM 34/2x16	08805	352	241
TM 52/2x20	08809	759	383

The environmental impacts of the different products beside the reference will be defined using extrapolation rules.

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Via Pian Masino 109

16011 Arenzano (GE)

http://www.bocchiotti.it/en/

Materials & Substances

Total weight of the reference flow

203.85 g including packaging, accessories, wastes and materials used for the production

Constituent materials

Plastics			Others		
Material	Mass (g)	%	Material	Mass (g)	%
PVC	1.40E+02	68,8%	Cardboard	1.55E+01	7,6%
ABS	1.02E+01	5,0%	calcium carbonate	1.40E+01	6,9%
PELD	1.22E+00	0,6%	Acrylic binder	1.26E+01	6,2%
PS	3.80E-01	0,2%	CaZn	5.50E+00	2,7%
			Titanium dioxide	3.90E+00	1,9%
			Glue	3.00E-01	0,1%
Total mass					2.04E-01

Hazardous substances

This product is designed in conformity with the requirements of the RoHS directive (European Directive 2002/95/EC of 27 January 2003) and do not contain lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive.

Additionnal environmental informations

Manufacturing

The Linea Minicali TM Optima wireway is partially manufactured at a Bocchiotti production site on which an ISO14001 certified environmental management system has been established.

In order to reduce its environmental footprint, Bocchiotti production site in Arenzano produces 80% of its electricity internally, thanks to a thermal power plant (gas engine).

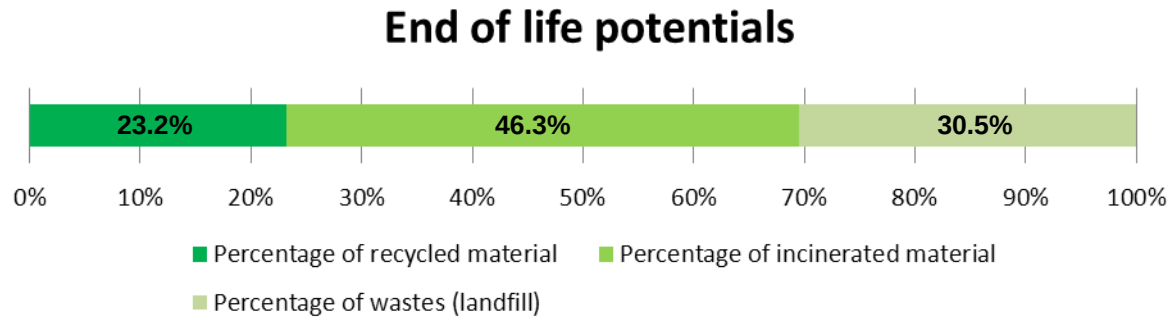
Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.

The Linea Minicali TM Optima packaging weight is 16.97 *g*. It consists of cardboard, glue and PE film.

End of life

The potential end of life ratios (repartition between recycling, incineration and landfilling) have been calculated thanks to the Eco'DEEE methodology and the Vinyl 2010 report. They are:



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Environmental Impacts

Life Cycle Assessment Methodology

The calculation of environmental impacts is resulting from a Life Cycle Analysis (ISO 14040:2006) of the wireway Linea Minicali TM Optima considering an expected life time of 20 years.

The environmental analysis has been conducted on the entire product life cycle (from cradle to grave). The environmental impact assessment is focusing on the following life cycle stages:

- Production (extraction of raw materials of the product and the packaging, manufacturing processes, manufacturing losses and losses treatment)
- Distribution (from the final logistic platform to end customer considering a truck transport of the product plus its packaging)
- End of Life (wastes collection, recycling, incineration and landfill of PVC, ABS and PS)

No impacts are due to the installation and the use phase, due to the nature of the product.

Use scenario and geographical representativeness

The wireway is used during 20 years in Europe.

No energy, maintenance or consumables are used during its expected lifetime.

Environmental impacts

Environmental indicator	Linea Minicali TM Optima wireway « Stick and protect the wiring and the equipment along 1 meter during 20 years. The 250mm² wireway system include the wireway itself plus accessories representing a standard using. »						
	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Air Acidification	g H+ eq	**8,53E-02**	6,87E-02	1,95E-03	0	0	1,47E-02
Air toxicity	m^3	**1,39E+05**	1,25E+05	2,90E+03	0	0	1,17E+04
Energy Depletion	MJ	**2,68E+01**	2,57E+01	1,48E-01	0	0	9,72E-01
Global Warming Potential	g CO_2 eq.	**7,71E+02**	5,34E+02	1,05E+01	0	0	2,27E+02
Hazardous Waste Production	kg	**6,36E-03**	5,87E-03	1,30E-08	0	0	4,82E-04
Ozone Depletion Potential	g CFC-11 eq.	**2,31E-05**	1,81E-05	1,99E-08	0	0	5,00E-06
Photochemical Ozone Creation Potential	g C_2H_4 eq.	**3,33E-01**	3,12E-01	2,34E-03	0	0	1,88E-02
Raw Material Depletion	Y-1	**1,23E-16**	1,22E-16	2,15E-19	0	0	1,07E-18
Water Depletion	dm3	**7,66E+00**	6,94E+00	1,09E-03	0	0	7,17E-01
Water Eutrophication	g PO_4^{3-} eq.	**2,24E-02**	1,60E-02	1,95E-05	0	0	6,32E-03
Water Toxicity	dm^3	**1,53E+03**	1,50E+03	4,49E+00	0	0	2,64E+01

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 5.1, and with its database version CODDE-2013-02, updated February 2013.

The manufacturing phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

The life cycle analysis is conforming to the specific rules of wireway systems: PSR0003-ed1-FR-20120202, available at: *www.pep-ecopassport.org*

CO_2 footprint on the Linea Minicali TM Optima wireway:

771 g CO_2 equivalent

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Extrapolation rules

The environmental impact of a system beside the one covered by the PEP ecopassport can be calculated by multiplying the values of the environmental indicators with the corresponding factor.

Product	Reference	Section (mm²)	Mass (g)	Coefficient
TM 32/2X12,5	08803	250	187	1.00
TM 22/2x12,5	08801	140	156	0.83
TM 34/2x16	08805	352	241	1.29
TM 52/2x20	08809	759	383	2.05

Registration N° : Entr-2010-001-V1-fr	**Applicable PCR: PEP-PCR-ed2-EN-2011 12 07** **Applicable PSR: PSR0003-ed1-FR-20120202**
Verifier accreditaction N°: VH06	**Program information: www.pep-ecopassport.org**
Date of publication: 04 - 2013	**Period of validity: 4 years**
Independent verification of the declaration and data, according to ISO 14025: 2006 **Interne Externe X**	
In compliance with ISO 14025-2006 standard type III environmental declarations	
PCR review was conducted by an expert panel chaired by J. Chevalier (CSTB)	
The element of the actual PEP cannot be compared with elements from another program	

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