

EPD Environmental Product Declaration



TRAMA 90

Ref. TM94200

Report Data 07.04.2010

Certificates

ISO 9001:2008

ISO 14001:2004

UNE 150301. Ecodesign

PEFC. Programme for the Endorsement of Forest Certification

GBCe. Green Building Council Spain



1. Data on the System

Type	New Product <input checked="" type="checkbox"/>	Redesign <input type="checkbox"/>	Studied Year 2009	
Declaration Scope:	From extraction of raw materials to complete desk solution, including end of life. The detail of each of the phases considered and its scope is included below			
Materials Including the extraction and processing of raw materials and component sourcing to its delivery at the Actiu Technological Park.	Production Consider the production and assembly processes used in Actiu.	Transport Includes from the Actiu Technological Park to our customers facilities. Transport is provided through light commercial transport.	Use This stage has not environmentally relevance for life cycle analysis.	End of life Any product can be disposed of in different ways, or become a resource. Drawing on national average dates, it is supposed that aluminium, wood and cardboard packaging is recycled, while the rest is treated as urban waste.

2. RAW MATERIALS USED FOR THE PRODUCT. Product specifications, including packaging

	KG of product solution	Percentage %	Quality of finishes	
			Production of raw material	Processed
Aluminum	9,149	24,21%	Bibliographic data	Bibliographic data
Plastic	1,0032	2,65%	Bibliographic data	Bibliographic data
Paperboard	4,323	11,44%	Bibliographic data	Bibliographic data
Wood	22,838	60,43%	Bibliographic data	Bibliographic data
Steel	0,292	0,77%	Bibliographic data	Bibliographic data
Various	0,186	0,49%	Bibliographic data	Bibliographic data
TOTAL	37,791	100,00%		
% recycled materials		83,99%		
% recyclable materials		96,85%		

ACTIU product design is made to facilitate the separation of its components and recycling.

The product is designed to help companies LEED® certification. You can obtain LEED® credits with our product. On the one hand, contains a high percentage of recycled materials and is manufactured with low emissions to the atmosphere. On the other hand, has been designed with ergonomic standards. Finally, it can be easily recycled because it is designed for disassembly and identification of very simple components. This will help you achieve LEED® credits for employee health and innovation

The verification process life cycle analysis is performed by independent experts in Ecodesign (Consultant Business Area) and using the criteria of the standard ISO 14006 "Ecodesign".

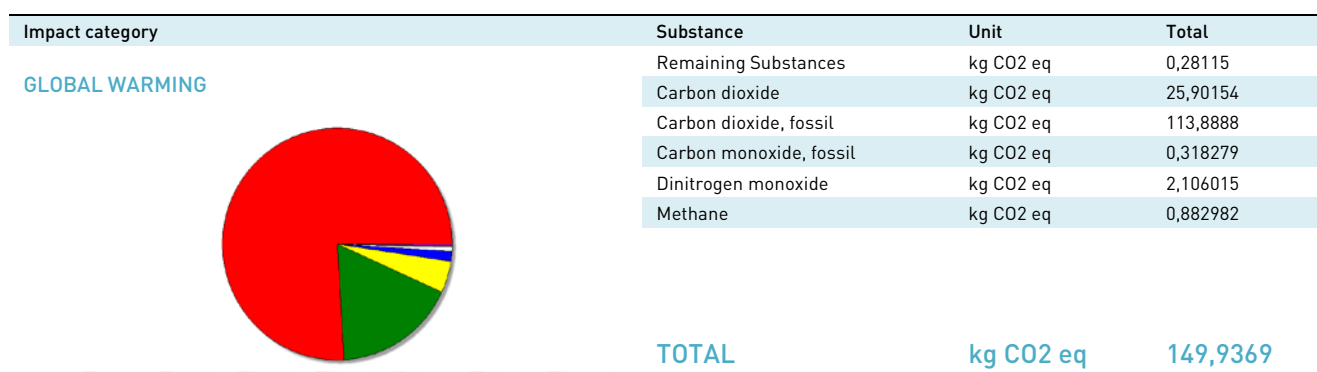
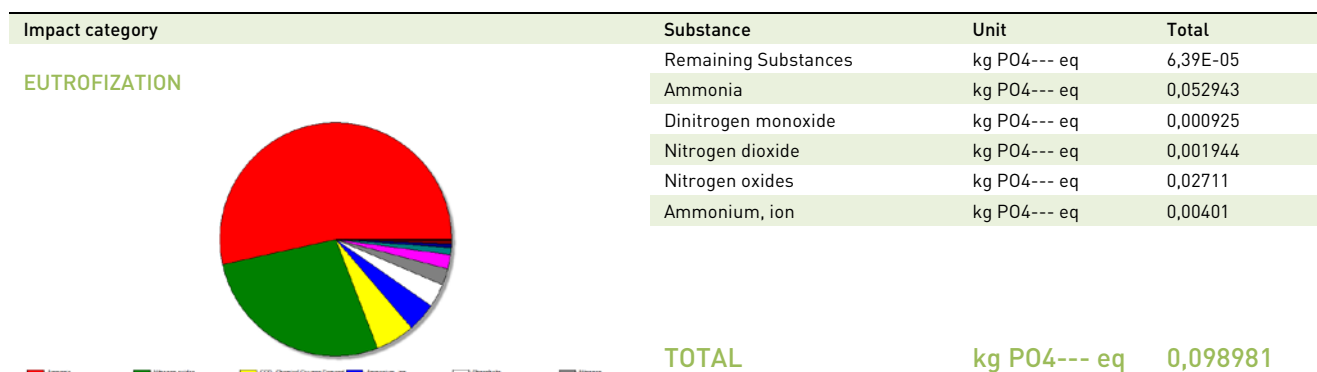
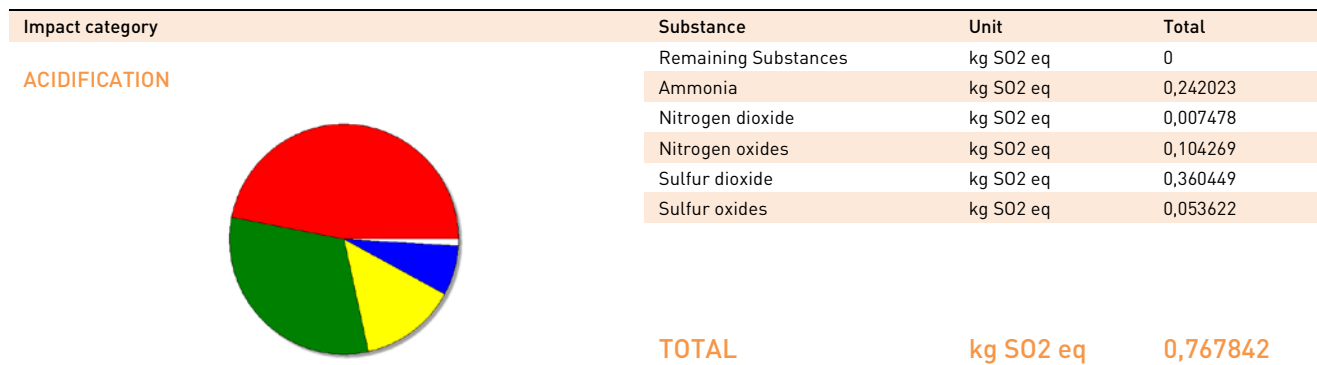
EPD Environmental Product Declaration

TRAMA 90

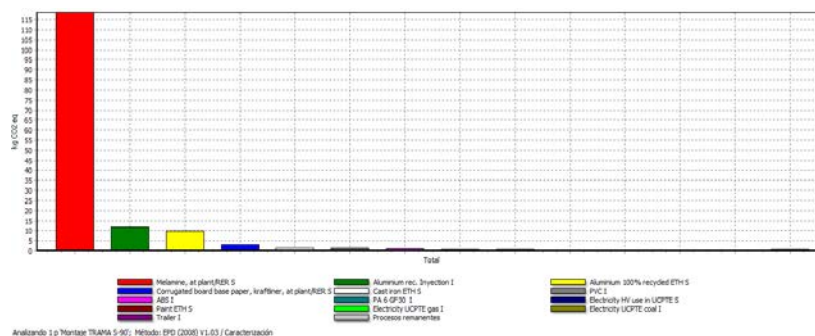
Ref. TM94200

Report Date 07.04.2010

3. Impacts produced by category. Five substances area included in each category have the greatest impact in each category



Impact of group elements (materials, processes, energy, use, transport and waste)



This product has been manufactured in the facilities of ACTIU BERBEGAL Y FORMAS, S.A

www.actiu.com

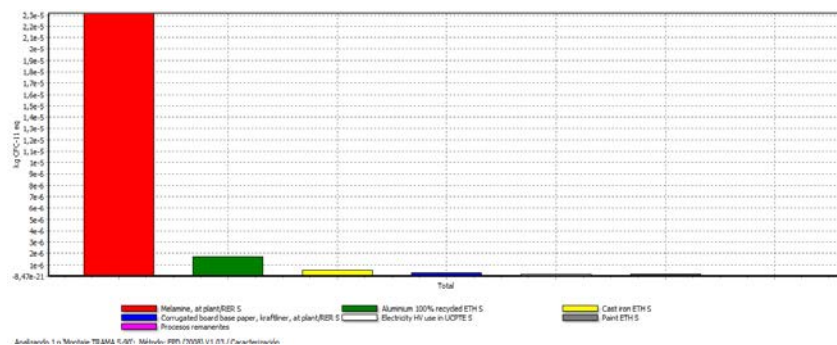
EPD Environmental Product Declaration

Impact category	Substance	Unit	Total
REDUCING OZONE	Remaining Substances	Kg CFC-11 eq	2,72E-08
	Methane, bromochlorodifluoro-, Halon 1211	Kg CFC-11 eq	1,85E-05
	Methane, bromotrifluoro-, Halon 1301	Kg CFC-11 eq	6,46E-06
	Methane, chlorodifluoro-, HCFC-22	Kg CFC-11 eq	1,02E-06
	Methane, tetrachloro-, CFC-10	Kg CFC-11 eq	1,36E-07
	TOTAL	kg CFC-11 eq	2,61E-05



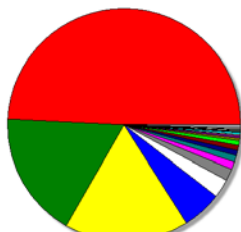
Methane, bromochlorodifluoro-, Halon 1211; Methane, bromotrifluoro-, Halon 1301; Methane, chlorodifluoro-, HCFC-22; Methane, tetrachloro-, CFC-10; Process remnants

Impact by group elements (materials, processes, energy, use, transport and waste)



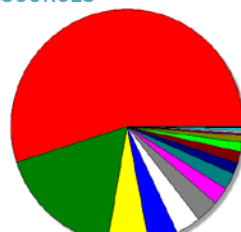
Andalucía, 1 to Navarra 75.884.5401; Melamine RBS 20085 111 071 / Plancha/rectificado

Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining Substances	kg C2H4 eq	0,000428
	Benzene	kg C2H4 eq	0,000165
	Butane	kg C2H4 eq	0,000712
	Carbon monoxide	kg C2H4 eq	0,000729
	Carbon monoxide, biogenic	kg C2H4 eq	0,000162
	Carbon monoxide, fossil	kg C2H4 eq	0,005474
TOTAL		kg C2H4 eq	0,099282



NMHC, non-methane volatile organic compounds, unspecified origin; Carbon monoxide, fossil; Butane; Sulfur dioxide; Sulfur dioxide; Ethane; Propane; Methane; Process remnants; Hydrocarbons, unspecified; Methane, fossil; Carbon monoxide; Nitrogen dioxide; Formaldehyde; Carbon monoxide, biogenic

Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining Substances	MJ eq	7,37436
	Coal, 18 MJ per kg, in ground	MJ eq	35,97975
	Coal, 29.3 MJ per kg, in ground	MJ eq	44,25415
	Coal, brown, 8 MJ per kg, in ground	MJ eq	9,26621
	Coal, brown, in ground	MJ eq	67,27571
	Coal, hard, unspecified, in ground	MJ eq	117,132
TOTAL		MJ eq	2818,294



Gas, natural, in ground; Gas, natural, 28 MJ per kg, in ground; Coal, 18 MJ per kg, in ground; Gas, natural, 30.3 MJ per kg, in ground; Coal, brown, 8 MJ per kg, in ground; Uranium, in ground; Gas, natural, 30.3 MJ per kg, in ground; Coal, brown, 29.3 MJ per kg, in ground; Coal, hard, unspecified, in ground; Coal, brown, 8 MJ per kg, in ground; Coal, brown, in ground; Coal, hard, unspecified, in ground; Gas, natural, 42.7 MJ per kg, in ground; Uranium, 500 GJ per kg, in ground; Energy, biomass, natural; Process remnants

WASTE	Total NOT DANGEROUS	KG	11,4
	Total DANGEROUS	KG	0,02

EPD Environmental Product Declaration

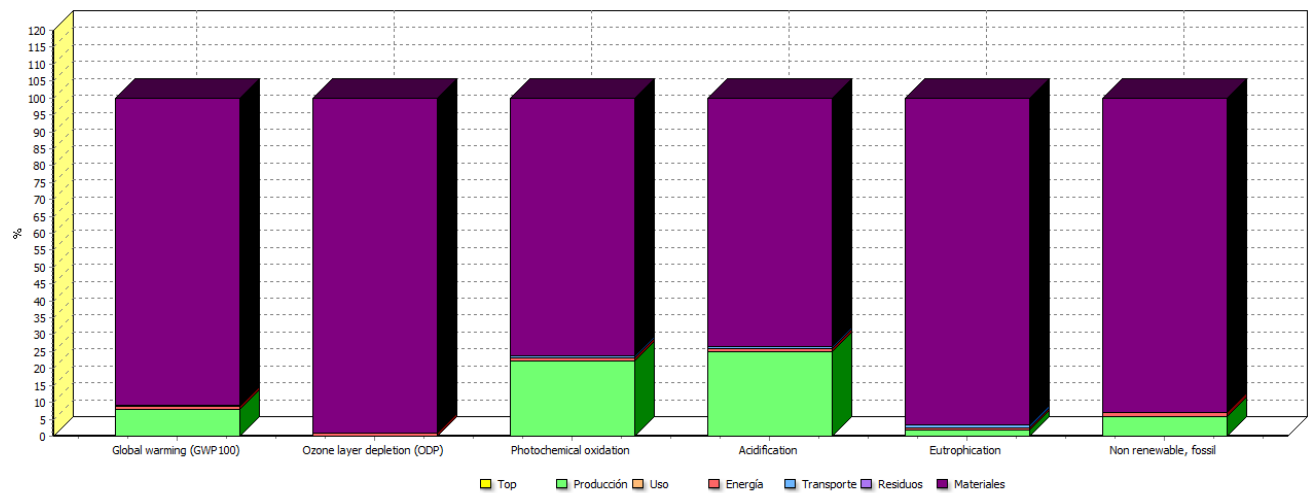
TRAMA - SERIE 90

Ref. TM94200

Report Data 07.04.2010

4. Impacts Produced by Life Cycle Stage. Six stages are included: Production, Use, Energy, Transportation, Waste and Materials.

Impact Category	Uts.	Total	Top	Production	Use	Energy	Transport	Waste	Materials
Global warming	kg CO2 eq	149,9369	0	11,9095	0	1,554647	0,324569	0	136,1481
Ozone layer depletion	kg CFC-11 eq	2,61E-05	0	0	0	2,06E-07	9,05E-10	0	2,59E-05
Photochemical oxidation	kg C2H4 eq	0,099282	0	0,02215	0	0,000923	0,000522	0	0,075687
Acidification	kg SO2 eq	0,767842	0	0,191214	0	0,007918	0,004494	0	0,564216
Eutrophication	kg PO4--- eq	0,098981	0	0,001903	0	0,000453	0,000885	0	0,09574
Non renewable, fossil	MJ eq	2818,294	0	165,7826	0	31,20692	0,016919	0	2621,288



Analizando 1 p 'Montaje TRAMA S-90'; Método: EPD (2008) V1.03 / Caracterización

TRAMA - SERIE 90

Ref. TM94200

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5. Ecodesign improvements considered.

ACTIU products are designed considering different environmental strategies. According to their level of complexity, the strategies used are classified into one of the following. Here are some of the choices for ecodesign significant product.

PRODUCT STRATEGY ECODESIGN	CHOICES
Low impact materials selection	<p>Designed to be manufactured with 84% recycled materials</p> <p>100% recycled aluminium</p> <p>Powder paint with no VOC admissions</p> <p>Limitation on use of hazardous substances. Without chromium, mercury, cadmium</p> <p>Board from recycled wood fibers</p> <p>Table edge without glue VOC content</p> <p>Wood meets E1 standard (reduced emissions, EN13986), does not emit formaldehyde.</p> <p>Recycled cardboard packaging</p>
Optimization of product techniques	<p>Optimizing energy use throughout the production process</p> <p>Painting processes of high technology systems.:</p> <p>Zero VOC emissions and other pollutants.</p> <p>Recovery unused paint in the process. Zero emissions of VOCs.</p> <p>Cleaning metals by closed water circuit</p> <p>Optimization of energy use in the manufacturing process: Heat recovery in the painting process, automated manufacturing systems for energy savings.</p>
Optimization of distribution system	<p>Low volume packaging. Spaces optimization.</p> <p>Saving energy and Flexibility. Modular system adaptable between different models.</p>
Optimization of product life	<p>15 years minimun duration.</p> <p>Easy Maintenace y cleaning. Easily cleaned with a damp cloth with water.</p> <p>The product is part of a modular program. Easy to modify, expand and repair.</p>
Optimization of the end of system life	<p>Easy separation of product components</p> <p>High degree of recyclability of the product: 97%</p> <p>Packaging reuse system between ACTIU and its providers to avoid waste generation</p>

Bibliography and references

ISO 14025 Environmental labels and declarations – Type III

UNE-EN-ISO 150301:2003 "Ecodesign".

ISO 14044:2006 "Environmental management. Lifecycle analysis. Requirements and guidelines"

UNE 150301:2003 "Ecodesign"

Environmental impacts methods

Data base: ETH-ESU System processes, Ecoinvent system processes, IDEMAT, EDIP, IPCC, Ecological Scarcity 2006.