

EPD Environmental Product Declaration

BUCK METAL

Ref. J233218E

Report Data 06.03.2012

Certificates

ISO 9001:2008
ISO 14001:2004
ISO 14006. Ecodiseño
PEFC. Programme for the Endorsement of Forest Certification
FSC. Forest Stewardship Council
GBCe. Green Building Council Spain



1. Details of the system

Type New Product ☒ Redesign ☐ Studied Year 2010

Declaration From extraction of raw materials to complete desk solution, including end of life.
Scope: The detail of each of the phases considered and its scope is included below

Materials	Production	Transport	Use	End of life
Including the extraction and processing of raw materials and component sourcing to its delivery at the Actiu Technological Park.	Consider the production and assembly processes used in Actiu.	Includes from the Actiu Technological Park to our customers facilities. Transport is provided through light commercial transport.	This stage has not environmentally relevance for life cycle analysis.	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 materials	Processed
Coarrugated Board	2,972	11,39%	Bibliographic data	Bibliographic data
Steel	17,8	68,22%	Bibliographic data	Bibliographic data
Wood	3,82	14,64%	Bibliographic data	Bibliographic data
Plastic	0,7563	2,90%	Bibliographic data	Bibliographic data
Others	0,743	2,85%	Bibliographic data	Bibliographic data
TOTAL	26,0913	100,00%		
% recycled materials		23,10%		
% recyclable materials		95,19%		

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 UNE 150301:2003 "Ecodesign".

EPD Environmental Product Declaration

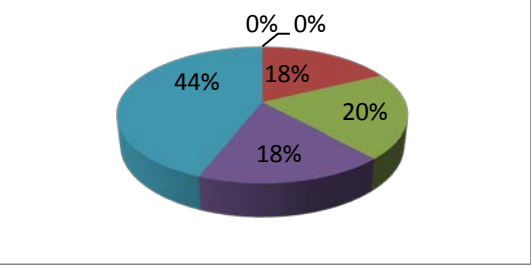
BUCK METAL

Ref. J233218E

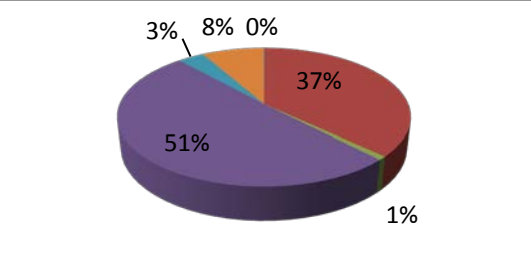
Report Data 06.03.2012

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

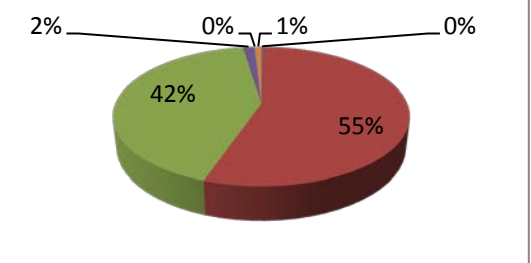
Impact category	Substance	Unit	Total
ACIDIFICATION	Remaining Substances	kg SO2 eq	2,37256E-06
	Ammonia	kg SO2 eq	0,041408085
	Nitrogen oxides	kg SO2 eq	0,047853969
	Sulfur dioxide	kg SO2 eq	0,041540801
	Sulfur oxides	kg SO2 eq	0,102815495
	TOTAL	kg SO2 eq	0,233620723



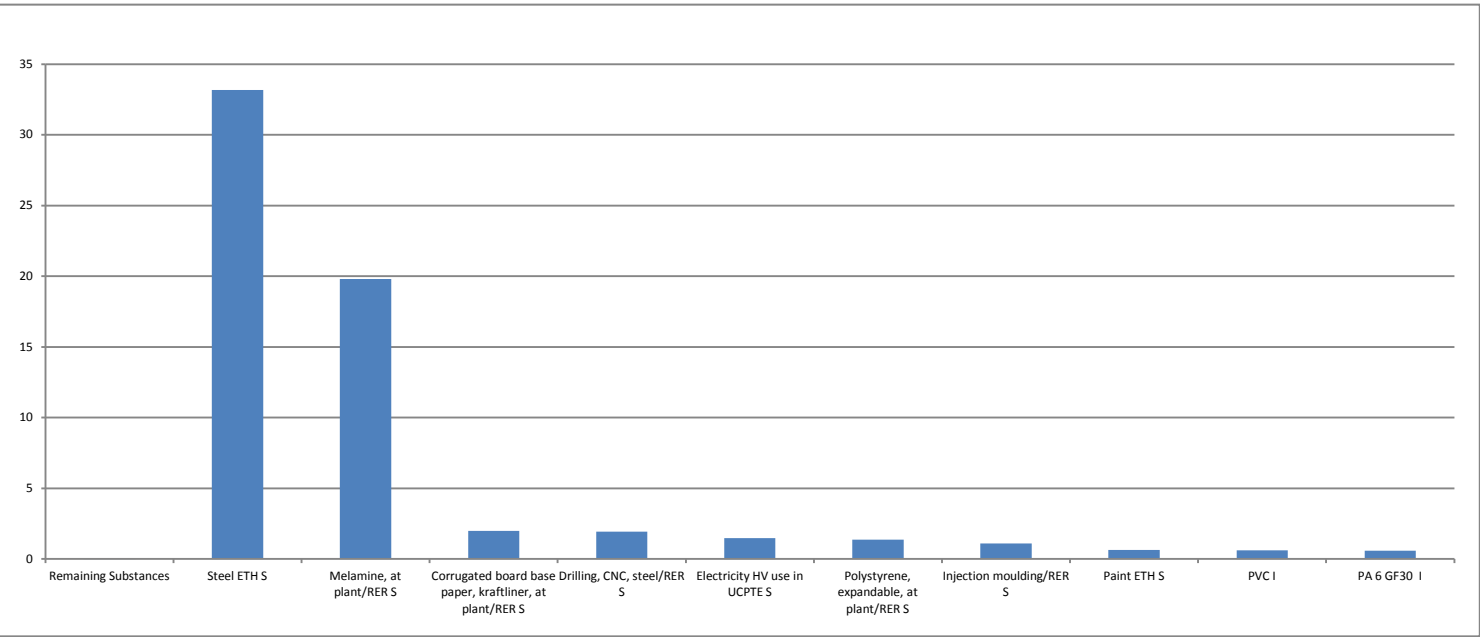
Impact category	Substance	Unit	Total
EUTROFIZATION	Remaining Substances	kg PO4--- eq	3,34536E-05
	Ammonia	kg PO4--- eq	0,009058019
	Dinitrogen monoxide	kg PO4--- eq	0,000199354
	Nitrogen oxides	kg PO4--- eq	0,012442032
	Ammonium, ion	kg PO4--- eq	0,000848808
	COD, Chemical Oxygen Demand	kg PO4--- eq	0,002017494
	TOTAL	kg SO2 eq	0,029705838



Impact category	Substance	Unit	Total
GLOBAL WARMING	Remaining Substances	kg CO2 eq	0,113235834
	Carbon dioxide	kg CO2 eq	31,63591583
	Carbon dioxide, fossil	kg CO2 eq	24,32260633
	Carbon monoxide	kg CO2 eq	0,839812396
	Carbon monoxide, fossil	kg CO2 eq	0,081690043
	Dinitrogen monoxide	kg CO2 eq	0,45391326
	TOTAL	kg SO2 eq	62,70697948



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



EPD Environmental Product Declaration

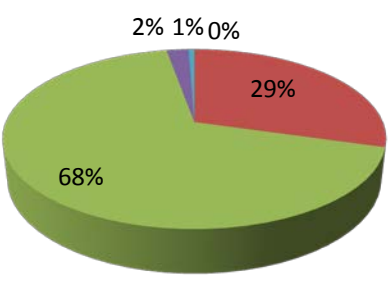
BUCK METAL

Ref. J233218E

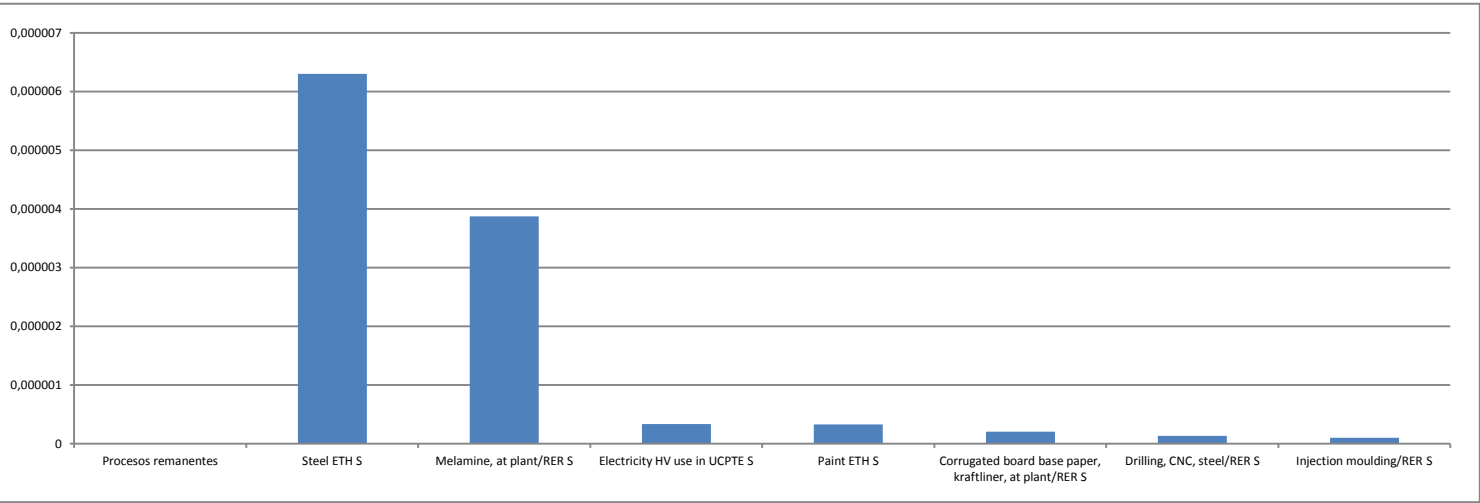
Report Data 06.03.2012

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

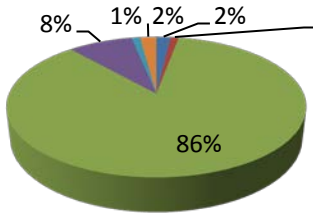
Impact category	Substance	Unit	Total
REDUCING OZONE	Remaining Substances	kg CFC-11 eq	3,89822E-10
	Methane, bromochlorodifluoro-, HFC-1211	kg CFC-11 eq	3,33104E-06
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	7,66053E-06
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	2,5286E-07
	Methane, tetrachloro-, CFC-11	kg CFC-11 eq	6,43749E-08
	Methane, trichlorofluoro-, CFC-11	kg CFC-11 eq	5,14124E-08
	TOTAL	kg SO2 eq	1,13606E-05



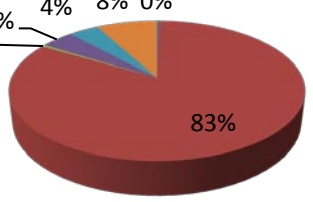
Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining Substances	kg C2H4 eq	0,000311519
	Butane	kg C2H4 eq	0,000176308
	Carbon monoxide	kg C2H4 eq	0,014442634
	Carbon monoxide, fossil	kg C2H4 eq	0,001404861
	Ethane	kg C2H4 eq	0,000183708
	Ethene	kg C2H4 eq	0,000356985
	TOTAL	kg SO2 eq	0,060523809



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining Substances	MJ eq	1,348615813
	Coal, 18 MJ per kg, in ground	MJ eq	373,581223
	Coal, 29.3 MJ per kg, in ground	MJ eq	2,40063077
	Coal, brown, 8 MJ per kg, in ground	MJ eq	19,04075776
	Coal, brown, in ground	MJ eq	17,33398865
	Coal, hard, unspecified, in ground	MJ eq	35,85320471
	TOTAL	kg SO2 eq	1134,170795



WASTE	Total NO HAZARDOUS	KG	2,44
	Total HAZARDOUS	KG	0,0129

EPD Environmental Product Declaration

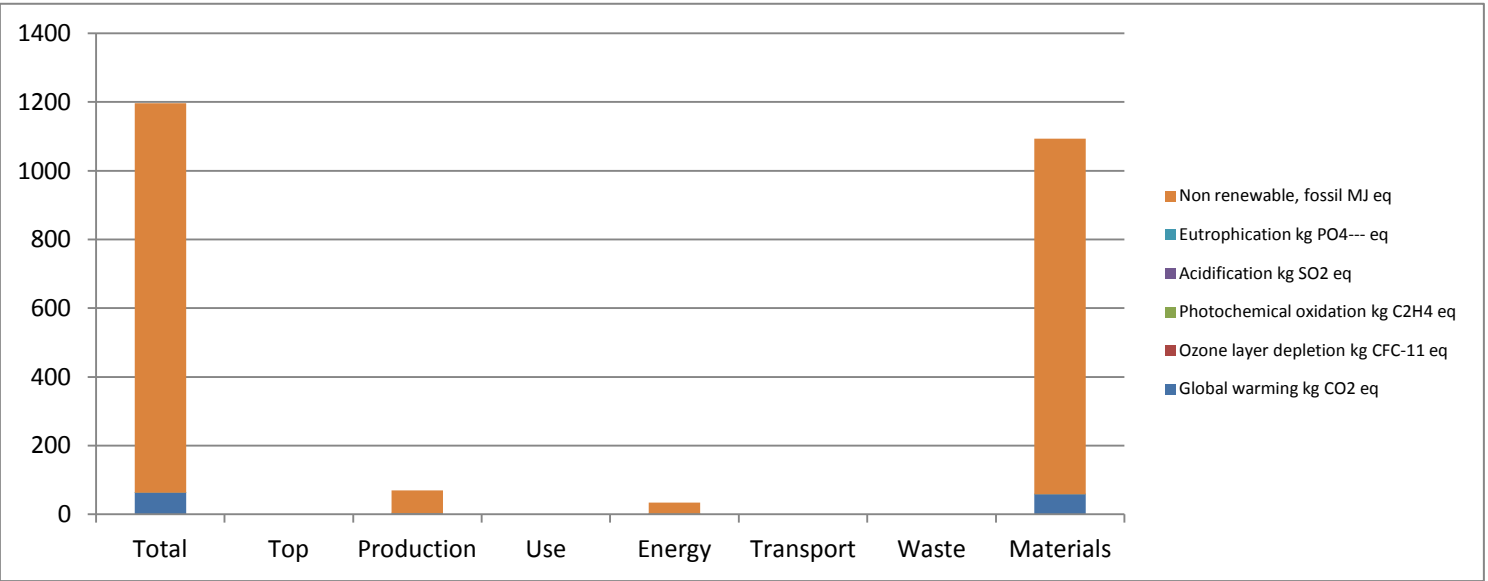
BUCK METAL

Ref. J233218E

Report Data 06.03.2012

5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Category	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming	kg CO2 eq	62,70698	0	3,028115	0	1,466289	9E-04	0	58,21
Ozone layer depletion	kg CFC-11 eq	0,0000114	0	0,000000239	0	0,000000337	6E-10	0	1E-05
Photochemical oxidation	kg C2H4 eq	0,060524	0	0,002063	0	0,0011	3E-06	0	0,057
Acidification	kg SO2 eq	0,233621	0	0,009922	0	0,009525	2E-05	0	0,214
Eutrophication	kg PO4--- eq	0,029706	0	0,002038	0	0,000357	8E-07	0	0,027
Non renewable, fossil	MJ eq	1134,171	0	66,26182	0	32,56364	0,016	0	1035





EPD Environmental Product Declaration

BUCK METAL

Ref. J233218E

Report Data 06.03.2012

6. Ecodesign improvements considered.

ACTIU products are designed considering different environmental strategies. According to their level of complexitiy, 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	Designed to be manufactured with 23% recycled materials
	100% recycled aluminium
	Powder paint with no VOC amissions
	Limitation on use of hazardous substances. Whithout chromium, mercury, cadmium
	Board from recycled Wood fibers
	Adhesives for thickness table set without VOC contents.
	Sustainable E1 Woods according to EN 13986 / low emissions that do not emit formaldehyde.
Optimization of product techniques	Recycled cardboard packaging
	Optimizing energy use throughout the production process
	Low manufacturing energy consumption. Minimum environmental impact.
	Painting processes of high technology systems.
	Recovery unused paint in the process. Zero emissions of VOCs.
	Closed water circuits. Heat recovery.
Optimization of distribution system	Automated manufacturing systems. Planning the cutting process.
	Reducing energy. Removable systems. Low volume packaging. Spaces optimization.
Optimization of product life	Saving energy and Flexibility. Modular system adaptable between diferent models.
	Long life guarantees
	Adaptability and growth facilities.
	Replacement parts possibilities.
Optimization of the end of system life	Easy Maintenace
	Easy separation of product components
	High degree of recyclability of the product: 95%
	Packaging reuse system between ACTIU and its providers to avoid waste generation

Bibliography and references

ISO 14025 Environmental labels and declarations – Type III

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

ISO 14044:2006 "Environmental management. Life cycle 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.