

# EPD Environmental Product Declaration

## MIT chair

Ref. 102100

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	<input checked="" type="checkbox"/>	Redesign	<input type="checkbox"/>
Studied Year 2010				
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			
<b>Materials</b> Including the extraction and processing of raw materials and component sourcing to its delivery at the Actiu Technological Park.	<b>Production</b> Consider the production and assembly processes used in Actiu.	<b>Transport</b> Includes from the Actiu Technological Park to our customers facilities. Transport is provided through light commercial transport.	<b>Use</b> This stage has not environmentally relevance for life cycle analysis.	<b>End of life</b> 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
Steel	6,0587	37,50%	Bibliographic data	Bibliographic data
Aluminium	4	24,76%	Bibliographic data	Bibliographic data
Plastic	3,0212	18,70%	Bibliographic data	Bibliographic data
Coarrugated Board	2,271	14,06%	Bibliographic data	Bibliographic data
Others	0,805	4,98%	Bibliographic data	Bibliographic data
<b>TOTAL</b>	<b>16,1559</b>	<b>100,00%</b>		
% recycled materials		38,82%		
% recyclable materials		76,32%		

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

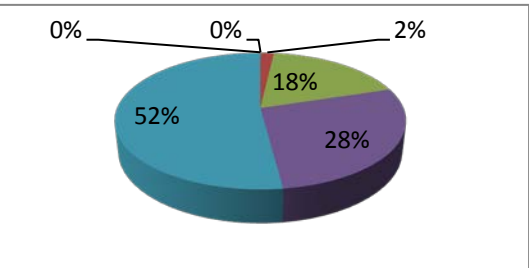
MIT chair

Ref. 102100

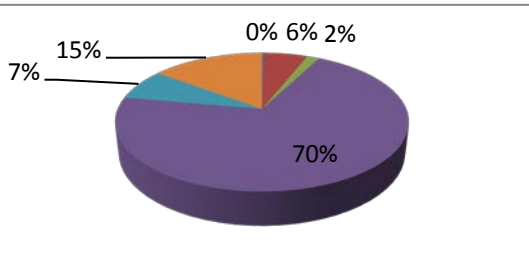
Report Data 06.03.2012

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

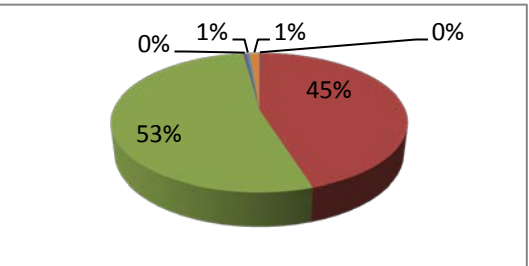
Impact category	Substance	Unit	Total
ACIDIFICATION	Remaining Substances	kg SO2 eq	4,16051E-05
	Ammonia	kg SO2 eq	0,006021366
	Nitrogen oxides	kg SO2 eq	0,061544093
	Sulfur dioxide	kg SO2 eq	0,093072516
	Sulfur oxides	kg SO2 eq	0,174637
TOTAL		kg SO2 eq	0,33531658



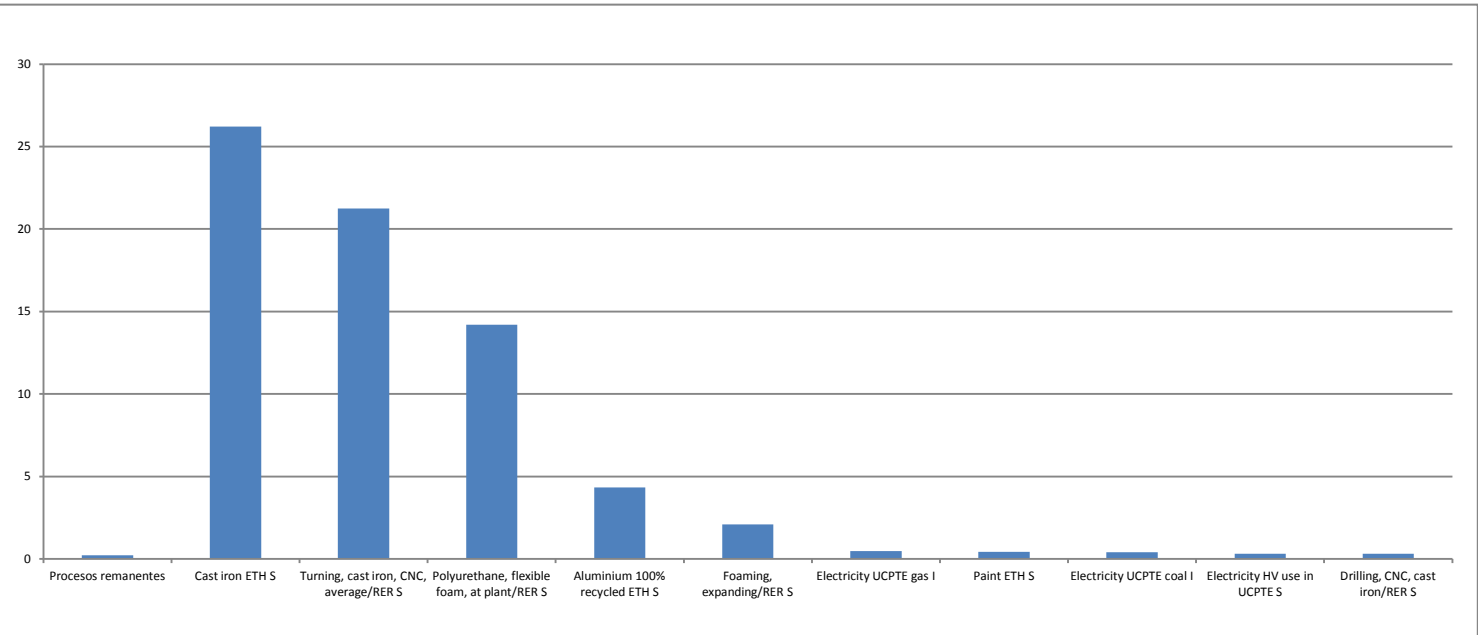
Impact category	Substance	Unit	Total
EUTROFIZATION	Remaining Substances	kg PO4--- eq	5,82591E-05
	Ammonia	kg PO4--- eq	0,001317174
	Dinitrogen monoxide	kg PO4--- eq	0,000364457
	Nitrogen oxides	kg PO4--- eq	0,016001464
	Ammonium, ion	kg PO4--- eq	0,001676856
	COD, Chemical Oxygen Demand	kg PO4--- eq	0,003383365
TOTAL		kg SO2 eq	0,037634894



Impact category	Substance	Unit	Total
GLOBAL WARMING	Remaining Substances	kg CO2 eq	0,085747126
	Carbon dioxide	kg CO2 eq	28,89276984
	Carbon dioxide, fossil	kg CO2 eq	33,8912996
	Carbon monoxide	kg CO2 eq	0,251207344
	Carbon monoxide, fossil	kg CO2 eq	0,262742797
	Dinitrogen monoxide	kg CO2 eq	0,829841119
TOTAL		kg SO2 eq	70,21077457



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



# EPD Environmental Product Declaration

MIT chair

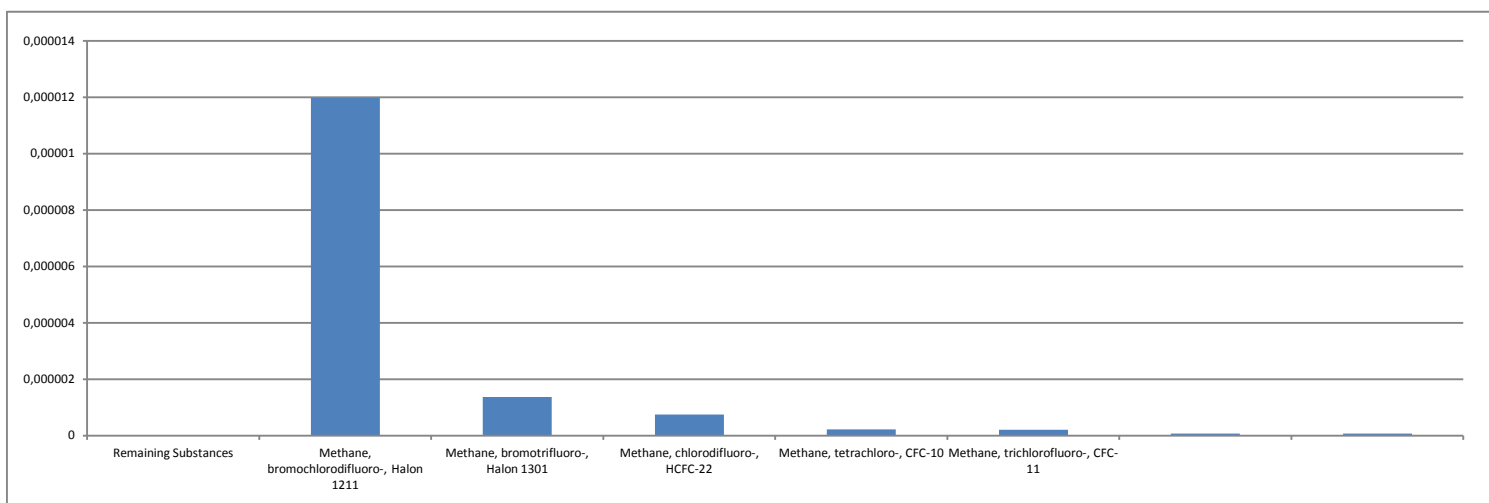
Ref. 102100

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	#iREF!	kg CFC-11 eq	7,45306E-11
	Methane, bromochlorodifluoro-, Halon 1211	kg CFC-11 eq	9,09096E-07
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	1,3579E-05
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	6,26175E-08
	Methane, tetrachloro-, CFC-11	kg CFC-11 eq	1,43611E-07
	Methane, trichlorofluoro-, CFC-11	kg CFC-11 eq	2,80449E-08
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>1,47225E-05</b>

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



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining Substances	kg C2H4 eq	0,000541477
	Butane	kg C2H4 eq	0,000158322
	Carbon monoxide	kg C2H4 eq	0,004320126
	Carbon monoxide, fossil	kg C2H4 eq	0,004518507
	Ethane	kg C2H4 eq	0,00010562
	Ethene	kg C2H4 eq	0,000389503
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>0,093014705</b>

Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining Substances	MJ eq	2,357209685
	Coal, 18 MJ per kg, in ground	MJ eq	230,2878649
	Coal, brown, 8 MJ per kg, in ground	MJ eq	10,40704345
	Coal, brown, in ground	MJ eq	37,51880949
	Coal, hard, unspecified, in ground	MJ eq	140,1380308
	Energy, from gas, natural	MJ eq	3,4152
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>1168,51694</b>

WASTE	Total NO HAZARDOUS	KG	12,06172
	Total HAZARDOUS	KG	0,1352

# EPD Environmental Product Declaration

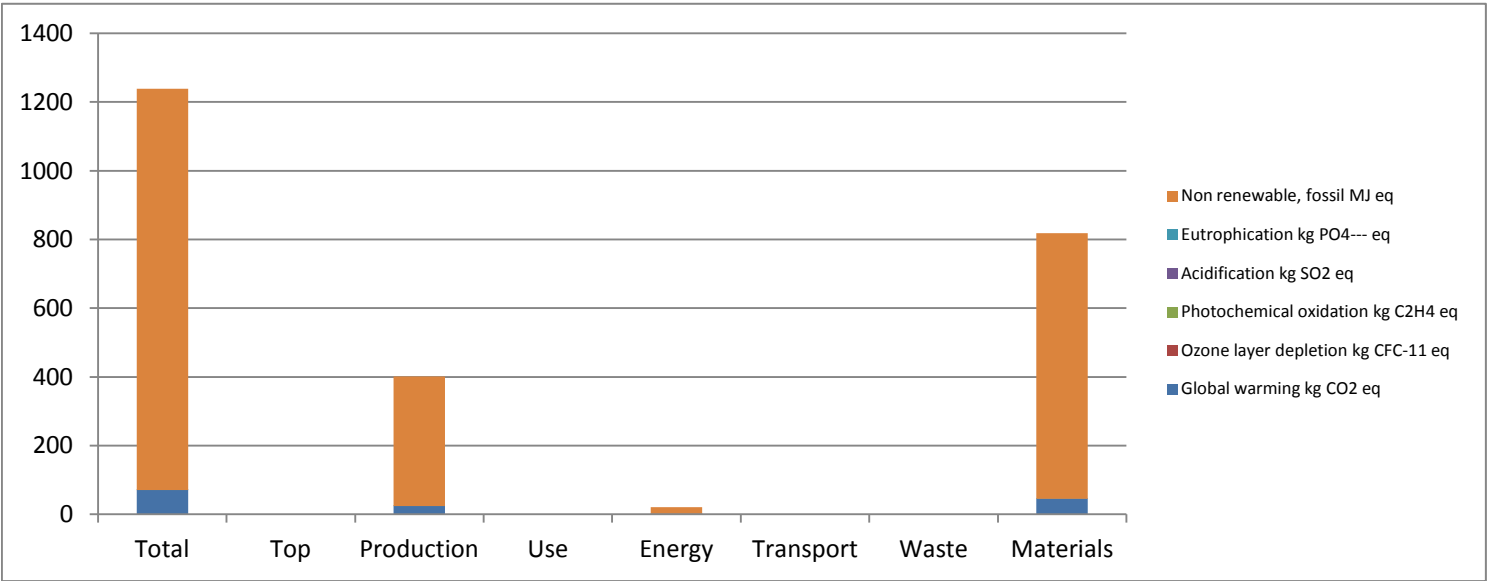
## MIT chair

Ref. 102100

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	70,21077	0	23,63537	0	1,296333	0,019	0	45,26
Ozone layer depletion	kg CFC-11 eq	0,0000147	0	0,00000159	0	0,000000126	7E-10	0	1E-05
Photochemical oxidation	kg C2H4 eq	0,093015	0	0,032925	0	0,000593	3E-05	0	0,059
Acidification	kg SO2 eq	0,335317	0	0,078033	0	0,005282	4E-04	0	0,252
Eutrophication	kg PO4--- eq	0,037635	0	0,015691	0	0,000368	4E-05	0	0,022
Non renewable, fossil	MJ eq	1168,517	0	377,1213	0	19,13597	0,014	0	772,2



# EPD Environmental Product Declaration

## MIT chair

Ref. 102100

Report Data 06.03.2012

### 6. 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	Designed to be manufactured with 39% recycled materials
	100% recycled aluminium
	Powder paint with no VOC emissions
	Limitation on use of hazardous substances. Without chromium, mercury, cadmium
	Recycled cardboard packaging
Optimization of product techniques	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 different models.
	Long life guarantees
	Adaptability and growth facilities.
	Replacement parts possibilities.
Optimization of the end of system life	Easy Maintenance
	Easy separation of product components
	High degree of recyclability of the product: 76%
	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.