Environmental Product Declaration

A presentation of the environmental performance of **Movida**. An environmental declaration according to the objectives of ISO/TR 14025, based on Life Cycle Assessment (ISO 14040-43).





Movida is simplicity itself. Rounded and welcoming, it is a flexible workstation created from just a few components. It will fit any application you ask of it.

The models chosen for analysis offer the most popular **Movida** combination (reference 290000210). It is equipped as follows:

- Top dimensions: 1 600 mm x 800 mm
- Top in white melamine with blue edges
- 4 silver feet
- Modesty panel L1600 mm
- Cable management with net L1600 mm



Manufacturer

The selected product **Movida** is manufactured in three plants (Wisches, Marlenheim and Rosheim) in France, by Steelcase, for the EMEA market (Europe, Middle East and Africa).

Since 1912, Steelcase has been committed to continually reducing the environmental impacts of its products and activities on a global scale,

by constantly seeking more effective ways to conserve resources, prevent pollution and nurture environmental consciousness in its people every day. Sustainable development is embedded in everything we do.

Steelcase has management systems for quality (ISO 9001) and for the environment (ISO 14001 and/or EMAS II), ensuring that our customers are guaranteed the same level of product performance, wherever they are in the world.

To show continuous improvements, Steelcase communicates the environmental performance of its products through voluntary environmental labels and declarations. The Steelcase Environmental report looks at things that have helped spur our environmental thinking and commitment and the subsequent actions and results.

For further information see www.steelcase.com



Material Declaration

Movida consists of the materials listed below. The total weight is 38.337 kg, including packaging.

metals	kg	%
Steel	11.311	29.5
Zamak	0.073	0.2

plastics	kg	%
LDPE film (low density polyethylene) for packaging	0.955	2.5
PP (polypropylene)	0.338	0.9
POM (polyrous methydona)	0.014	0.0

other materials	kg	%
Wood particle board	24.330	63.4
Cardboard for packaging	0.890	2.3
Rubber	0.213	0.6

Environmental Product Declaration

The potential environmental impacts of Movida (incl. packaging) throughout its entire life cycle – including raw materials extraction, production, transport, use, and end of life - were assessed using Life Cycle Assessment (LCA - ISO 14040-43) in spring 2006. Both method and product may have been subject to improvements since then. Environmental declarations from different programmes may not be comparable.

The functional unit - i.e. the quantified performance of the product for use as a reference unit - used in the Life Cycle Assessment was chosen as "Provision of comfortable office working - with the features stated in the product description - for 8 hours a day, 5 days a week over 15 years".

Life Cycle Inventory Analysis

The Life Cycle Inventory Analysis covers all life cycle stages as shown below.











Materials

This stage includes raw materials extraction and transformation into material ready to be used.

Production

This stage comprises all production and assembly processes taking place at Steelcase or at their suppliers. Data was obtained EMEA market (Europe, from suppliers and from the Middle East and Africa) ISO 14001 environmental management system of the production sites.

Transport

Transport from suppliers to the production site and transport from the production sites to the is considered.

Use

During the use stage of the product - the longest stage of the life cycle no relevant environmental impacts occur.

End of life

Any product can be disposed of in different ways, or become a resource itself. Based on current European averages it was assumed that about 60% of the products are sent to landfill, 27% are incinerated and 13% are recycled at the end of their useful life.

Distribution of the environmental impacts for the relevant life cycle stages

	Category	Unit	Total	Materials	Production	Transport	Use	End of life
	Global warming	[g CO ₂ -eq.]	39 670	27 600	10 200	2 980	No relevant environmental impacts occur	- 1 110
5	Acidification	[g SO ₂ -eq.]	306	248	38	27	No relevant environmental impacts occur	-7
₫ ₩₩	Eutrophication	[g NO ₃ -eq.]	281	207	34	45	No relevant environmental impacts occur	- 4
	Photochemical smog	[g C ₂ H ₄ -eq.]	20	16	1	4	No relevant environmental impacts occur	-1

Life Cycle Assessment

Environmental impact categories



Global warming

is due to emissions of greenhouse gases, causing the rise of the global temperature.

Acidification

is due to emissions of acids, causing the degradation of materials such as metals, limestone and concrete, and damage to trees and life in lakes and rivers.

Eutrophication

is due to emissions of nutrients, causing blooms of algae. The degradation of dead algae consumes oxygen leading to the loss of plants and animals.

Photochemical smog is due to a mixture of pollutants which includes volatile organic components, particulates, nitrogen oxides, ozone... It's harmful to human health (causing inhalation irritations lung problems, coughing and wheezing) and the environment (damage to plants and crops).

Abiotic resource depletion

is due to extraction and consumption of non-renewable resources such as oil, coal and metals.

Waste

is the bulk waste and hazardous waste created during the whole life cycle of the product.

Toxic substances

are substances which cause harm to the natural environment or human health, emitted during the whole life cycle of the product.

Environmental aspects of Movida

The contributions of inventory parameters to different impact categories throughout the entire life cycle of **Movida** are listed below. Life cycle inventory parameters are mentioned only if they contribute more than 1% of the total impact in that impact category.

Category	Parameter		Inventory value Unit	Characterized impact	value Unit
Global warming	CO ₂	(carbon dioxide)	34 740 g	Total	39 670 g CO₂-eq . 87.9 %
	HCs	(hydrocarbons)	11 g		8.2 %
~(_4)~	CH ₄	(carbon monoxide)	404 g		2.0 %
3 N	CH ₄	(methane)	29 g		1.8 %
Acidification				Total	306 g SO ₂ -eq.
CONTRACTOR OF THE PARTY OF THE	NO _x	(nitrogen oxides)	203 g		46.4 %
	SO _x	(sulphur oxides)	157 g		51.3 %
Eutrophication				Total	281 g NO ₃ -eq.
411114	NO _x	(nitrogen oxides)	203 g		97.1 %
Photochemical smog				Total	20 g C₂H₄-eq
	CO	(carbon monoxide)	404 g		60.5 %
ί 🚵	NMVOCs*	(from diesel engines)	7 g		20.5 %
	C_2H_4	(ethene)	2 g		10.0 %
	Formaldehyde		2 g		4.2 %
	VOCs*	(from heating with natural ga			1.6 %
	CH ₄	methane	29 g		1.0 %
Abiotic resource depletion	Coal		6.070 ~		
	Oil		6973 g		_
(慶1)	Natural gas	10	5732 g		_
	Ivaturai gas Iron	(in ore)	4 952 g 8 607 g		_
	Brown coal	(lignite)	628 g		_
	Manganese	(in ore)	54 g		_
	Zinc	10	74 g		_
Waste					
	Bulk waste		814 g		-
	Hazardous was	ste	16 g		-
Toxic substances	Toxic substanc	as as	6 g		
	TOXIC SUDSIGITO	50	o y		_



Movida complies with the French environmental certification "NF Environnement" (ISO 14024)

E

The particle board complies with the low emission "E1 standard (EN13986)"

Actions for reducing the environmental impacts at each stage of the environmental life cycle

End of life Materials • Movida is 97% recyclable by weight. The cardboard and • Movida contains no hazardous materials (i.e. no Lead, Mercury, Cadmium, LDPE film used for packaging are 100% recyclable. Chrome VI, no dangerous materials such as PVC, and no hazardous flame retardants such as halogenated flame retardants. • Movida is quick and easy to disassemble using normal hand tools. It contains only a few different materials, making • Movida contains 35% recycled materials, by weight. sorting for recycling easy. Plastic parts are clearly labelled • The packaging consists of cardboard and LDPE film for easy sorting and an effective recycling. (Low Density Polyethylene), both containing at least 30% • Movida can be integrated into the Steelcase recycled material. Environmental Partnership Program designed to • To reduce overall material usage, Movida is made ensure environmentally responsible after use with a minimum number of components and strategies for furniture. different materials. • Paper and packaging use water based inks without solvent. Use **Production** • Movida was designed for a long product life with replaceable elements. • The production site in Wisches has an ISO 14001 certified environmental management system, and Maintenance information is available the one in Marlenheim is in the process of obtaining it. in the User's manual • Movida was designed to be made with minimal waste, energy consumption and environmental impact • Powder-coat painting is VOC-free and free of heavy metals; **Transport** unused paint that does not attach to the product can be directly reused in • Minimised packaging weight and volume also help us improve

Compilation and Verification Process

• The LCA study of the **Movida** (reference 290000210) was carried out by Steelcase, according to ISO 14040-43, together with the ENSAM of Chambéry - France (Ecole Nationale Supérieure des Arts et Métiers). It was then critically reviewed by the IPU Product Development - Denmark.

• Glue used to attach edges on the table is water based and releases no VOCs.

• The independent verification of the environmental declaration (EPD - ISO/TR 14025) was carried out by IPU Product Development - Denmark.

References

Form of document

• ISO/TR 14025: Environmental labels and declarations – Type III environmental declarations.

filling rates and thus require less energy for shipping.

• Lee, K.M., Park, P.: "Application of Life-Cycle Assessment to Type III Environmental Declarations", Environmental Management, Vol. 28, No. 4, 2001, pp. 533-546.

LCA method and characterisation factors

- EDIP method: Wenzel, Hauschild, Alting: "Environmental Assessment of Products" Volume 1 (Methodology, tools and case studies in product development), Chapman and Hall, 1997, ISBN 0412808005.
- Intergovernmental Panel on Climate Change (IPCC), status reports, 1995 and 2001.

End of life scenario

• European Topic Centre on Waste and Material Flows, Copenhagen, Denmark, Sept. 2002, http://waste.eionet.eu.int

Contact

For further questions contact: epd@steelcase.com