



Environmental product declaration

according to ISO 14025 and EN 15804

wiesner hager concept

Seating for public areas, acc. to EN 16139, EN 1022 and EN 1728
reddot design award winner 2011

focus open silber 2011

macao Chair

- ✓ CRITERION 1: ISO 14025 TYPE III
- ✓ CRITERION 2: BASED ON ISO 14040
- ✓ CRITERION 3: BASED ON ISO 14044





Environmental Product Declaration
EPD

Design: neunzig° design

<p>Wiesner-Hager Möbel GmbH Linzer Straße 22 A-4950 Altheim Tel. 0043 7723 460-0 http://www.wiesner-hager.com/en/</p>	Manufacturer Declaration holder
TA 22012 1634 6836-200 03297740400	EPD number
6836-200 macao macao Chair	Declared product
This declaration was compiled according to ISO 14025 and EN 15804 type B. It describes the environmental rating of the listed product and gives the possibility to compare it with other similar products.	Purpose
The content of this declaration is based on the results of the operational life cycle assessment, according to EN ISO 14040/44 of the fiscal year 2022/23. The used generic data comes from acknowledged life cycle management databases and current EPD's of the declaration holders upstream products and are calculated using the CML method. https://www.wiesner-hager.com/en/about-us/sustainability/life-cycle-assessment/	Data origin
The procedure to compile this declaration was audited on 14 th September 2023 by TÜV Austria GmbH.	Auditing
Dipl.-Ing. Dr. Jürgen Hain, TÜV Austria GmbH, Wien	Auditor
By means of the certificate TA 22012 1634 from 26 th September 2023, TÜV Austria GmbH authorizes the declaration holder to generate EPD type III. Download certificate	Certification
The certificate is valid until 30 th September 2026. The compliance of the requirements will be ensured by annual, internal and external evaluations.	Validity
Gerhard Steigthaler, Master of Science, environmental engineer	Issuer
29. February 2024	Date of issue

<p>This declaration includes</p> <ul style="list-style-type: none"> - Pictures, descriptions and fulfilled standards - Information about life cycle assessment - Specific characteristics of the product configuration - Indicators of the life cycle and impact assessment - Details on the material composition of the product - Information about material certificates of the used raw materials - Recycling potentials 	Content																																																									
<p>The assessment of the declared product covers the whole lifecycle process from raw materials, manufacturing and disposal, including all transportation. The anticipated lifespan of the product is 15 years, assuming the product is used in line with the manufacturer's guidance and for the application it was designed and intended. As a result of the high product quality, no repairs are expected during the lifetime and no environmental impact is anticipated. All recycling is carried out in line with European standards. Component parts are separated and recycled accordingly and any remaining waste material is incinerated under strict controls for the generation of energy. All transport distances including those of our suppliers and subcontractors are considered; all distances are calculated using route planning software. The distance between the declaration holder and the end user is 500 km, the average distance between the end user and the waste management company is calculated at 50 km.</p>	Investigation frame																																																									
<p>The standard EN 15804 describes the basic rules for the preparation of environmental product declarations for building materials. Furniture are still irrelevant for sustainability certifications of buildings, however we try to assign the high transparency of this standard to our furniture as far as possible. The following lifecycles are considered in this document:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Phase</th> <th style="text-align: left;">Name of lifecycle</th> <th style="text-align: left;">relevant</th> </tr> </thead> <tbody> <tr><td>A1</td><td>raw material supply and processing</td><td>yes</td></tr> <tr><td>A2</td><td>transportation to the manufacturer of precursor products</td><td>yes</td></tr> <tr><td>A3</td><td>production of precursor products</td><td>yes</td></tr> <tr><td>A4</td><td>transportation to building site</td><td>no</td></tr> <tr><td>A4</td><td>transportation of the product to the end user *)</td><td>yes</td></tr> <tr><td>A5</td><td>manufacturing of the product **)</td><td>yes</td></tr> <tr><td>B1</td><td>use of the product ***)</td><td>no</td></tr> <tr><td>B2</td><td>maintenance</td><td>no</td></tr> <tr><td>B3</td><td>repair</td><td>no</td></tr> <tr><td>B4</td><td>substitute</td><td>no</td></tr> <tr><td>B5</td><td>renovation</td><td>no</td></tr> <tr><td>B6</td><td>energy consumption for technical building equipment</td><td>no</td></tr> <tr><td>B7</td><td>water consumption for technical building equipment</td><td>no</td></tr> <tr><td>C1</td><td>demolition</td><td>no</td></tr> <tr><td>C2</td><td>transportation to waste treatment</td><td>yes</td></tr> <tr><td>C3</td><td>waste treatment</td><td>yes</td></tr> <tr><td>C4</td><td>landfilling</td><td>yes</td></tr> <tr><td>D</td><td>recycling potential</td><td>yes</td></tr> </tbody> </table> <p>*) Acc. to EN 15804 the modul A4 describes the transport of the building materials to building site, here it stands for the transport of furniture to the end user</p> <p>**) Acc. to EN 15804 the modul A5 describes the installation of building materials into the building, here it stands for the manufacturing of the furniture at the factory</p> <p>***) The use of our furniture has no relevant environmental effects</p>	Phase	Name of lifecycle	relevant	A1	raw material supply and processing	yes	A2	transportation to the manufacturer of precursor products	yes	A3	production of precursor products	yes	A4	transportation to building site	no	A4	transportation of the product to the end user *)	yes	A5	manufacturing of the product **)	yes	B1	use of the product ***)	no	B2	maintenance	no	B3	repair	no	B4	substitute	no	B5	renovation	no	B6	energy consumption for technical building equipment	no	B7	water consumption for technical building equipment	no	C1	demolition	no	C2	transportation to waste treatment	yes	C3	waste treatment	yes	C4	landfilling	yes	D	recycling potential	yes	System boundaries
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The general information of the LCA refers to whole lifecycle, beginning with the raw material make, the manufacturing of the product until the disposal of <i>one</i> unit of the product with an anticipated lifespan of 15 years. But the division of impact factors with the masses of the product allows also a specific statement in mass.	Functional unit
Seating for public areas, acc. to EN 16139, EN 1022 and EN 1728 reddot design award winner 2011 focus open silber 2011	Application
6836-200 macao macao Chair, polypropylene seat shell, not upholstered	Identification of product
The design of macao conciliates apparently inconsistent characteristics: on the one hand, there is the delicate and light appearance, on the other hand, the stable and robust structure. The upper side of the plastic shell is characterised by a clear and fluent outline- unbroken and quiet. The legs seem to grow out of the underside. The plastic shell is reinforced between the application points and the centre of the seat. This creates a stabilising cross that ensures the required stability. The powder-coated precision tubular steel legs are bolted individually to the seat shell. macao will be used in all recreation areas such as cafeterias, restaurants, bars, bistros, break rooms and common rooms. The macao chair family is supplemented by a barstool featuring similar design elements.	Description of product
colour of plastic 97 black anthracite; colour of metal chrome; leg finish plastic glides	Configuration of

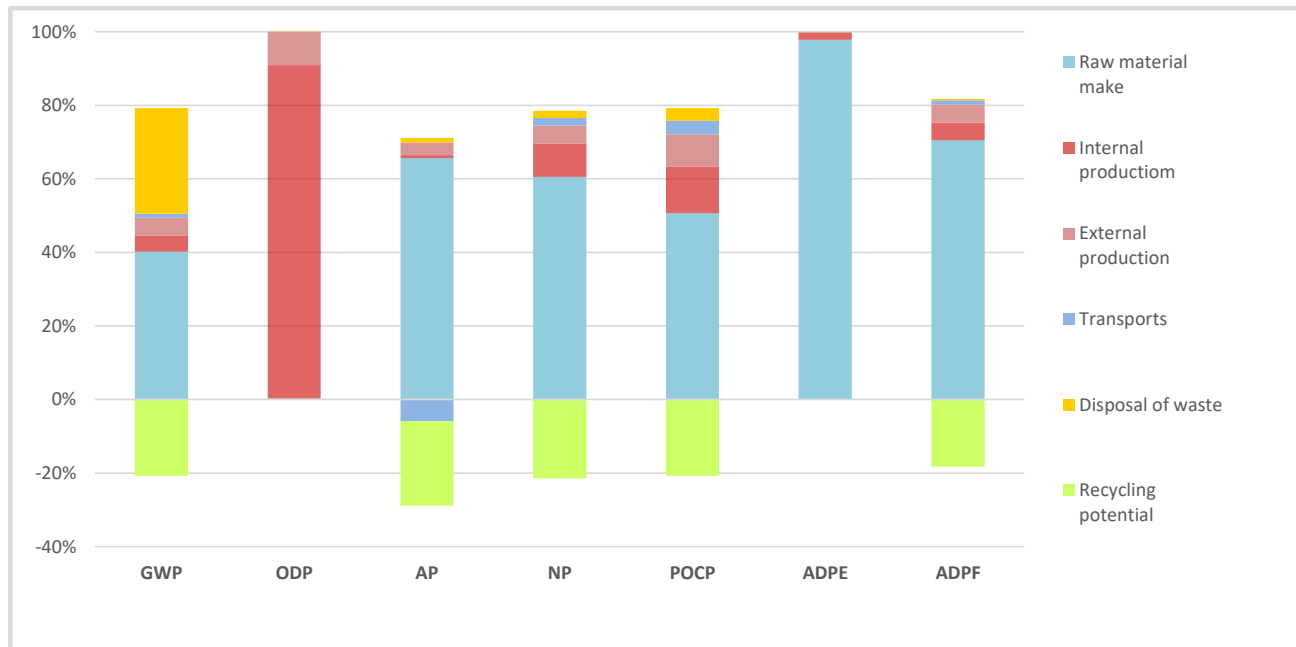
Eco-balance indicators

LCA Indicators		Global warming GWP	Ozone depletion ODP	Acidification AP	Nutritification NP	Ozone creation POCP	Abiotic resources ADPE
		CO2 eq.	CCl3F eq.	SO2 eq.	PO4-3 eq.	C2H4 eq.	Sb eq.
Lifecycle		(kg)	(mg)	(g)	(g)	(g)	(g)
Raw material make	A1-A3	16,38	0,00	4,03	33,17	3,55	1,31
Transportation	A4	0,18	0,00	-0,15	0,43	0,10	0,00
Internal production	A5	1,79	0,00	0,05	4,92	0,89	0,03
Sub-contracting	A5	1,88	0,00	0,2	2,63	0,59	0,00
Transport to the end user	A4	0,26	0,00	-0,19	0,59	0,14	0,00
Waste treatment	C2-C4	11,71	0,00	0,06	1,15	0,26	0,00
Recycling potential	D	-8,45	0,00	-1,41	-11,78	-1,45	0,00
Total		23,74	0,00	2,60	31,12	4,07	1,33

Use of resources		Abiotic fossil fuels	Primary energy renewable		Primary energy fossil		Use recycled fibre
			energy carrier	material use	energy carrier	material use	
Lifecycle		ADPF	PERE	PERM	PENRE	PENRM	SM
		(MJ)	(MJ)	(MJ)	(MJ)	(MJ)	(kg)
Raw material make	A1-A3	368,88	44,51	2,96	205,02	177,51	0,44
Transportation	A4	2,41	0,14	0,00	2,42	0,00	0,00
Internal production	A5	25,13	11,87	0,09	24,74	0,58	0,00
Sub-contracting	A5	24,68	9,67	0,00	27,67	0,00	0,00
Transport to the end user	A4	3,45	0,21	0,00	3,46	0,00	0,00
Waste treatment	C2-C4	2,22	0,41	0,00	178,60	-176,24	0,00
Recycling potential	D	-95,76	-19,46	0,00	-101,42	0,00	0,00
Total		331,01	47,34	3,05	340,49	1,84	0,45

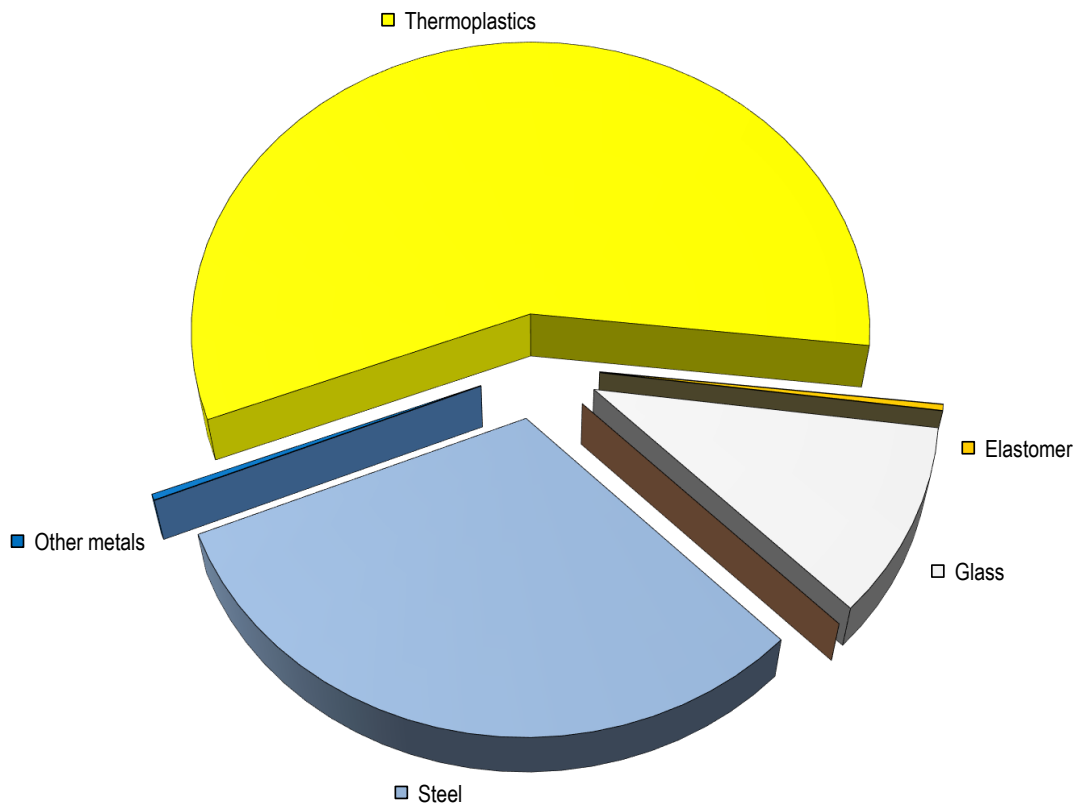
Use of resources / waste		Recycled fuels		Use sweetwater resources	Waste		
		renewable	fossil		dangerous waste site	no dangerous	radioactive waste
Lifecycle		(RSF)	(NRSF)	FW	(HWD)	(NHWD)	(RWD)
		(MJ)	(MJ)	(m³)	(kg)	(kg)	(kg)
Raw material make	A1-A3	0,00	0,00	0,05	0,00	0,34	0,01
Transportation	A4	0,00	0,00	0,00	0,00	0,00	0,00
Internal production	A5	0,00	0,00	0,01	0,00	0,02	0,00
Sub-contracting	A5	0,00	0,00	0,01	0,00	0,09	0,00
Transport to the end user	A4	0,00	0,00	0,00	0,00	0,00	0,00
Waste treatment	C2-C4	0,00	0,00	0,02	0,00	0,65	0,00
Recycling potential	D	0,00	0,00	-0,01	0,00	-0,08	0,00
Total		0,00	0,00	0,08	0,00	1,03	0,00

Impact contribution



Material composition			Recycling content			
Materials	Weight	Share	material	energetic	disposal	[]
Steel	1,960	31,3%	1,921	0,000	0,039	kg
Aluminium						
Other metals	0,020	0,3%	0,020	0,000	0,000	kg
Thermoplastics	3,604	57,6%	0,241	3,002	0,360	kg
Duromer						
Elastomer	0,020	0,3%	0,000	0,019	0,001	kg
Laminated plastics						
Wood-Plastic Composites						
Solid wood						
Derived timber product						
Paper, -board						
Leather						
Other renewable materials						
Glass	0,654	10,4%	0,407	0,000	0,246	kg
Other mineral materials						
Laquer and adhesives	0,000	0,0%	0,000	0,000	0,000	kg
Chemicals						
Auxiliaries						
Total	6,258	100,0%	2,590	3,021	0,648	kg

Material composition



The proportion of secondary raw material in this product is 22,4%.

Use of laquer and adhesives

Application	Chemical characterisation	Weight ¹	VOC ²	Classific. ³
Wood glues	-	-	-	-
Hotmelt adhesives	-	-	-	-
Fabric glues	-	-	-	-
Assembly adhesives	Instant adhesive	0,0002 kg	3,0%	no
Stains	-	-	-	-
Water-based varnish	-	-	-	-
Powder coatings	-	-	-	-
Solvent-based varnis	-	-	-	-

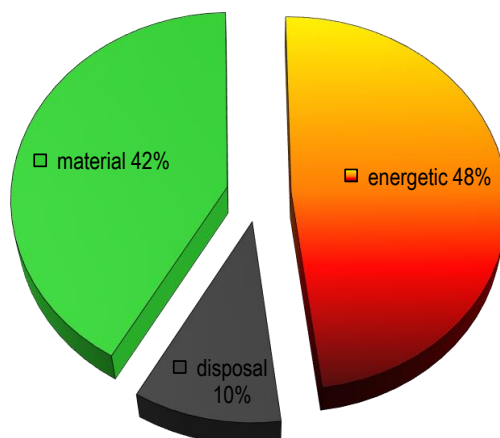
The product is free of halogenated plastics (PVC).

¹ dry matter

² uncured

³ acc. EG Reg. No 1272/2008

Recycling rate (EoL)



The chart shows the presently usual recycling rate in Western Europe, based on the used material mix.

The thermal recycling will release energy to the amount of 141 MJ. This is equivalent to 3,9 litre of light fuel oil.

The remaining ash from the incineration will be disposed of in a landfill.

Publisher and picture credits

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