

# Chassis

## Environmental Product Information.

design made in germany

# Wilkhahn



Chassis.  
Design: Stefan Diez

Multi-purpose chair Chassis is a milestone in new approaches to living and working. It's ground-breaking, both in formal and technical terms, as well as in the flexibility of its design which allows totally different interpretations. The name "Chassis" refers to the seat-frame manufacture which is based on innovative space-frame technology. For the first time in furniture history, a sheet steel chair frame has been crafted with cutting-edge technologies from auto engineering. An exciting shape has been fashioned that fuses with the seat shell to become a distinctive whole with a strong appeal. It's a multi-purpose chair that has won many awards. Depending on the version chosen, it cuts an impressive dash in working and living environments: in studios, meeting rooms, cafeterias or workshops, in showrooms or dining rooms, hotels or conference areas. It's quite simply a chair that's designed to endure.

### Guidelines.

#### Truthfulness in product design

We strive to develop lasting products, increase their utility value and reduce waste. "Less is more" or "reduce to the max" are the guiding principles that Wilkhahn continually translates into future contexts. Ecologically oriented design principles are a natural, integral part of product development.

#### Fairness in cooperation

We focus on people. This implies a cooperative style of management that recognizes employees' representatives as being co-managers who share in shaping the company. Profit-sharing for employees, the development of new forms of work with partly autonomous group and project work, as well as a firmly established health management scheme mark Wilkhahn's social orientation.

#### Ecological responsibility

Wilkhahn pursues the goal of sustainable development. Wilkhahn corporate culture is shaped by the balance that we strive to achieve between economic, ecological, social and cultural objectives for safeguarding the independence of the company. Adherence to environmentally relevant criteria throughout the entire product life cycle forms the basis of the way in which we judge our success.

### Wilkhahn at a glance – commitment statements, certification.

UN-Global Compact, ISO 9001/14001, EMAS, GREENGUARD™, LEED

Sustainability:



UN Global Compact

Processes:



ISO 9001  
ISO 14001



EMAS

### Milestones of socio-ecological development at Wilkhahn

**2012** A biogas plant is connected to the district heating grid and solar-power systems are installed, achieving a CO<sub>2</sub>-neutral footprint in the heating supply.

**2010** A new varnishing area with heat recovery is commissioned (saving 200,000 kilowatt hours annually).

**2009** The first furniture manufacturer in Germany to sign an international framework agreement with IG Metal and BHI (Building and Woodworkers International) unions to monitor and encourage environmental and social standards in the global value chain.

**2008** Block heat and power station with combined heat and power is commissioned at the Bad Münde site. Due to renewable raw materials, CO<sub>2</sub> emissions are cut substantially.

**2007** Wilkhahn joins UN Global Compact.

**2004** Company pension scheme switches to a modern system with a profit-related factor.

**2001** First company in the state of Lower Saxony to be certified in line with the EMAS 2 European environmental standard.

**2000** Participates in the world exhibition EXPO 2000 in the "Future of Work" section and publishes one of the first reports on sustainability in medium-sized businesses.

**1997** Corporate Conscience Award from the Council on Economic Priorities, New York.

**1996** German environmental prize from the Deutsche Bundesstiftung Umwelt.

**1992** Launch of the ecological design concept and the Picto swivel chair range as the first office chair globally which is based on ecological criteria.

**1989** "Wilkhahn Green" is initiated with a manifesto on ecology: "The administrative and management board have jointly decided to take ecological concerns seriously and to place greater emphasis on them than a quick profit".

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The designer's idea is the beginning of the story. Like a stylish and elegant bicycle saddle, the new chair is to combine technical stability and precision with comfort and a contoured shape. The result is a lightweight, comfortable and easy to handle four-legged chair, where the structure and the shell fuse to become a distinctive unit with a strong appeal. Lucid, but still organic, contoured but still lightweight, technically precise, but still natural.

- Thanks to the deep-drawing procedures, thin sheet metal is used as the frame's material. In this case, the strength is not produced by the thickness of the material, but by moulding it in small radii. The press uses 300 tonnes of pressure to pull the pre-cut fine sheet steel in one piece to make the seat and backrest shell. Geometry, cut-out parts, pressure, speed and damping are perfectly attuned in the process.
- The exchangeable seat and backrest shell, made of finely grained polypropylene, is also industrial design at its best. With a patented, concealed connection method it's placed, using a form-fit procedure, to the frame which is then lent even more stability.
- Just two materials are used, therefore complying with the demand for a few, pure and recyclable materials. Sheet steel is easily available and can be recycled without any loss of quality. Polypropylene can be recycled into plastic granulate.
- The lasered croppings of metal are used to produce the four connecting points, so that virtually no wastage is created. Therefore, this process is very economical on materials and saves on weight.
- The power coating is free of solvents and guarantees long-lasting surface quality.
- The seat shell is easy to exchange, so that Chassis can be given a brand-new look and adapt to different backdrops.



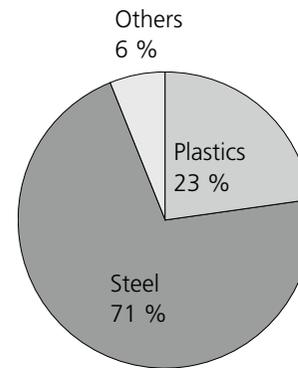
## Responsibility from the very start – Wilkhahn Environmental Product Information

The environmental impact of the Logon table has been evaluated for the entire product life cycle – including the extraction of raw materials, manufacturing, utilization and waste disposal – on the basis of a life cycle analysis and assessment (LCA).



### Materials Composition

Metals	kg	in %
Metals	3.95	71
<b>Plastics</b>	1.3	23
Polypropylen (PP)	1.25	22
Others	0.5	1
<b>Others</b>		
Fabrics for covers	0.35	6
<b>Total weight</b>	5.6	100
<b>Recycling proportion</b>	1.4	25
<b>Recycling capability</b>	5.26	94



The materials used in Chassis chairs are subject to stringent controls. As part of an ABC analysis, the materials are checked to ensure they are environmentally friendly and not harmful to health. Prohibited chemicals are not used in the product at all. All raw materials, consumables and supplies are listed in a hazardous materials register which is the basis for continuing to minimise or substitute potential problem materials.

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Architectural environment



Co-generator powered by renewable raw materials



## Production.

### Water pollution control, waste management and sustainable production of energy

Water is becoming an increasingly important resource. Wilkhahn spares no effort to minimize water consumption in production and to ensure that water quality is not impaired. Due to the treatment of process water, the quantities of waste water requiring special supervision has been reduced by 80 per cent.

The Wilkhahn waste management concept embraces sorting waste according to one-type materials, recycling and disposal of all fractions of waste resulting from production and administration.

The modern co-generator for combining power and heat at the Bad Münde site is powered by renewable raw materials. From 2012 onwards the connection to the district heating grid of a biogas plant is in addition substantially cutting the CO<sub>2</sub> emissions.

### Wilkhahn production sites

Wilkhahn's Chassis chairs are produced and assembled at the site in Bad Münde (Germany) and assembled in Castellon (Spain) and Sydney (Australia).

### Environmental management system

All Wilkhahn sites work in conformity with a uniform environmental management system that is validated at the Bad Münde site (Germany) and certified in accordance with EMAS ISO 14001.

### Process safety and quality management

Both the main Wilkhahn production site and all European sales offices are certified in accordance with ISO 9001. When selecting suppliers, Wilkhahn assigns great value to a comprehensive and viable quality management system.

**ILO:** All Wilkhahn production facilities guarantee compliance with labour and social standards as required by the ILO (International Labour Organization). Such compliance also forms the basis of cooperation with suppliers. The ILO is primarily concerned with the formulation and implementation of international labour and social standards, particularly core work standards that ensure social and just interpretation and application of all aspects of globalization, as well as the promotion of decent work.

### Employees as partners

Top performance requires a potential-oriented corporate organization with flexible working hours, a bonus scheme, and group and project work. In turn, all employees share in corporate success in material terms. They have a comprehensive pension scheme; they are at the heart of company health promotion measures and they work in an environment that, by taking groundbreaking steps in industrial architecture, strives to achieve a synthesis of social, ecological, economic and aesthetic needs.

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## Usage.

### Aesthetics and design

Sustainable products must be a good idea in the first place. Chassis' special, distinctive aesthetics ensure that its form will still be considered timeless and modern for many years to come. Chassis has won many accolades and stands for a new synthesis of working and living environments. To respond to different design and usage concepts, the 32 different designs come in five frame colours, through-dyed, finely grained plastic shells in black, white or grey, as well as textile covers in three types of fabric and in various colours. From traditional to modern, to casual and avant-garde.

### Durability and guarantee

Hand-made prototypes of multi-purpose chair Chassis were presented for the first time in 2008. Customers and the industry responded so encouragingly that a further two years were invested in developing it for industrial production and in creating the pressing tools. In terms of design quality, production technology, comfort and handling, ability to adapt and environmental responsibility, it's a milestone of product design that's sustainable in the truest sense of the word.

Our manufacturer's guarantee is valid for two years, therefore allowing a solid planning horizon. An issue we feel responsible for, regardless of our products' long useful lives. We consider guarantees way beyond these periods as selling the future short. Our services to extend the ecological life of the chair include maintenance as well as an overhaul of older chairs. We guarantee to carry out repairs on discontinued furniture for at least two years after production has ceased. Long market presence, offerings to overhaul products and the excellent durability of the Chassis chairs are key aspects of Wilkhahn's product philosophy.

### Air quality and emissions of pollutants

Wilkhahn promotes good indoor air quality. We verify that our products fulfil top demands by carrying out regular Greenguard®-compliant product testing. This certificate indicates low-emission products that release no gas concentrations that are harmful to the environment or to health. GREENGUARD Indoor Air Quality™ certification is also planned (and has been started) for Chassis chairs.

## LEED

Office chairs from the Neos range support companies by allowing credit points to be achieved in the case of potential LEED certification (U.S. Green Building Council's Leadership in Energy and Environmental Design). Buildings in the USA are evaluated according to this system in terms of their ecological and social impact.



## End of product life cycle.

### Return of used products and recycling

Our responsibility does not stop at the end of the utilization phase of a product as we offer our customers extensive services for taking back and recycling used products. We guarantee that used products may be returned in their entirety. The tables are dismantled at our plant, all components are sorted according to one-type materials and – if possible – are recycled. Due to the clear marking and identification of all materials, due to their nontoxicity and due to easy dismantability, we can today ensure that the components of a Wilkhahn product are returned to both decentral and local material and production cycles and are properly recycled and, if necessary, disposed of. This serves to reduce energy-intensive (and thus ecologically questionable) return transport over long distances.

### Disassembly and recycling

All Graph components can be dismantled non-destructively. In order to guarantee materials are sorted according to type, all components over 150 g in weight are labelled. No protective agents for materials, or organic halogen compounds are used that prevent recycling at a later date. A total of 91 per cent of the chair can be recycled.

### Transport packaging

Wilkhahn uses for the shipping of chairs in Germany primarily polythene plastic foils to protect the products against dust, for the international shipping in addition cardboard packaging. The packaging consist mainly of recycling materials and can be reused or again recycled.

### International awards

Red Dot "Best of the Best" 2011.

Best seating at ICFF (International Contemporary Furniture Fair) in New York 2011.

DESIGN PLUS Award 2011.

Materialica Design + Technology Award 2011.

German Design Award 2012 (silver).

Included in the "design of the year 2012" selection, London Design Museum 2012.