

Solis. Environmental Product Information.



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, awards.

UN-Global Compact, ISO 9001/14001, EMAS, GREENGUARD™ (certification in process), LEED, GECA

Sustainability:



UN Global Compact

Processes:



ISO 9001
ISO 14001



EMAS

Product: Solis

Certification
in process

GREENGUARD™



GECA



Complies with the requirements for the following number of credits under LEED:
LEED CI 6 – 8
LEED NC 6
LEED EB 7

Solis.

Pure simplicity

Design: wiege

Simplicity in terms of design, operation and ergonomic adjustment are prerequisites for enabling people to concentrate on the real task at hand. Healthy sitting is, after all, the last thing that people should have to think about when they are working. "Sitting in pure simplicity" was therefore used as the guiding principle in developing the Solis office chair with a view to designing a chair that meets the manifold and complex demands made on office chairs in the simplest manner possible, and a chair of which human resources managers or company doctors, facility managers or users are equally convinced.

The Solis and Solis F ranges, developed for Wilkhahn by the wiege design studio in 2002, are therefore characterized by uncompromisingly purist form and an ingeniously high degree of seated comfort. They have been designed for environments where clear commitment to transparency, progress and the future are the order of the day. The concept is based on the principle of automatic dynamic sitting combined with variable, intuitive adjustment of seat depth and backrest height are is invariably required today.

Milestones of socio-ecological development at Wilkhahn

2008 The newly erected co-generator for combining power and heat at the Bad Münder site is powered by renewable raw materials and since 2008 it has ensured virtually CO₂-neutral production

2001 First company in Lower Saxony, Germany, to be certified in accordance with the European Environmental Standard of EMAS 2

2000 Publication of the first sustainability report in the sector of medium-sized companies: Wilkhahn Added Values

1997 Corporate Conscience Award of Council on Economic Priorities, New York

1996 German Ecology Prize of the Deutsche Bundesstiftung Umwelt

1995 Development and introduction of transport packaging; changeover in table lacquering to low-solvent, water-based lacquer

1994 Preparation and implementation of a waste management concept according to the premises of recycling management

1992 Introduction of the Picto swivel chair range as the first office chair in the world with a design concept integrating consistently ecological criteria

1989 Start of "Wilkhahn Green" with a policy statement on ecology: "The Administrative Board and Management have decided jointly to take ecological matters seriously and, in case of doubt, to give priority to such over and above quick profit"

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Comprising one-type materials as far as possible, repair-friendly and easy to recycle on site

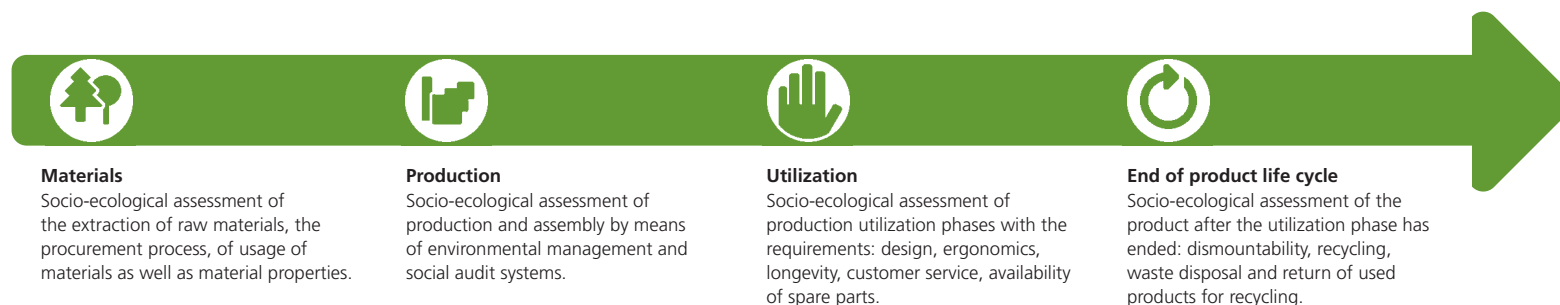
Wilkhahn product development, which has been based on an ecologically oriented design concept since 1992, always focuses on longevity in terms of form, function and materials – and Solis is no exception to this rule. This concept includes reduction of material diversity, as well as clear marking and coding of materials, easy repair of wearing parts and the recyclability of materials used.

- In order to guarantee both longevity and good recyclability, frames and swing arms, including the backrest adjustment mechanism are made from die-cast aluminium components which combine high dimensional stability with low weight. The maintenance-friendly mechanism has high resistance to wear and is largely constructed from steel parts. The seat shells comprise through-dyed polypropylene, back shells are in viscoelastic polyamide and the armrests are made from glass fibre-reinforced polyamide. In the Solis F model group, the armrests and the covered seat and back frames are also made from in die-cast aluminium. The main materials used – aluminium and polypropylene – are 100% recyclable.
- The seat and back cushions in CFC-free polyurethane foam are exchangeable, like the covers. The same applies to the covering of the Solis F model group and the additional padding optionally available for these versions.
- To guarantee easy recycling, only few different materials are used which are clearly marked and can be re-used or recycled in local material cycles – without involving any ecologically or economically complicated return transport.

Solis and Solis F go to prove that office chairs with complex adjustment functions can be designed and produced with due consideration to ecological aspects. But above all, time-stable design, ergonomic functions and high-quality materials ensure return on investment in both economic and ecological terms.

Responsibility from the very start – Wilkhahn Environmental Product Information.

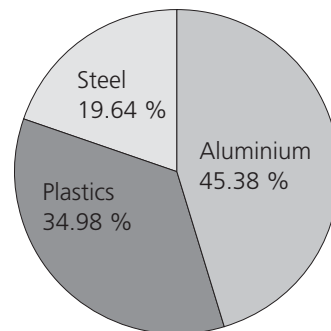
The environmental impact of the Solis office chair has been evaluated for the entire product life cycle – including the extraction of raw materials, manufacturing, utilization and waste disposal – on the basis of a life cycle analysis and assessment (LCA).



Materials.

Material composition

Metals	kg	in %
Steel	3.74	19.64
Aluminium	8.64	45.38
Plastics		
Polypropylene	1.20	6.30
Polyurethane foam	1.00	5.25
Nylon	4.12	21.64
Others	0.34	1.79
Total weight	19.04	100



The total weight of the chair is 19.04 kg.

Solis comprises 49 percent recycling material (aluminium / steel). The materials used for Solis office chairs are subject to stringent control. An ABC analysis is used to examine substances contained in these materials in terms of environmental and health compatibility. Prohibited chemicals are not used in the product at all.

All manufacturing supplies are contained in a register of hazardous substances that forms a basis for further minimization or substitution in the case of potential problematic substances.

GECA

Wilkhahn Solis chairs are certified according to the Australian environmental label GECA (Good Environmental Choice Australia).

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Wilkhahn



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 newly erected co-generator for combining power and heat at the Bad Münde site is powered by renewable raw materials and from 2008 onwards it will ensure almost CO₂ neutral production

Wilkhahn production sites

Wilkhahn Solis office chairs are produced and assembled in Bad Münde (Germany), 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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Wilkhahn



Use.

Aesthetics and design

Sustainable products must be purposive. The timeless aesthetics of the Solis range result in an increase in utility value in terms of enduring use. Although Solis can be equipped to meet any conceivable demands made on an office chair, it has consistently simple design. Coherent surfaces, solid forms and parallel linearity are not only a question of taste, but of productivity too.

Longevity and guarantee

The Solis office chair range was launched in 2002. More than 29,750 Solis chairs have been sold throughout the world since then. Solis sets standards for product design that is "sustainable" in the most optimal way. The durability of the high-quality materials used, the innovative sitting concept and the classic design guarantee usability for many decades. We give a two-year manufacturers' guarantee which thus provides a serious planning and specifying timeframe. We can vouch for this regardless of the long product service life entailed. We regard guarantees over and above such timeframes as an investment in the future. Our service in terms of "ecological prolongation of service life" includes general overhauling and maintenance of older chairs. Wilkhahn offers repair service for furniture units no longer produced for two further years following discontinuation. Being on the market for a long time, overhaul service and the high durability of Solis office chairs mark key aspects of Wilkhahn product philosophy.

Air quality and emissions of pollutants

Solis office chairs do not emit any concentrations of gas that are harmful to the environment or to health. Products from the Solis range are currently being certified in the USA in accordance with GREENGUARD Indoor Air Quality™. GREENGUARD™ is a certification programme for low emitting products.

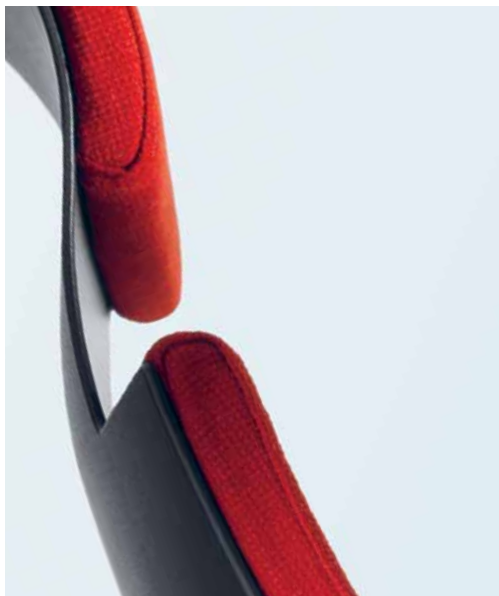
LEED

Office chairs from the Solis 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.

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Wilkhahn



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 chairs are dismounted 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 dismountability, 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 components of the Solis office chair permit non-destructive disassembly. All components weighing more than 150 g bear a material identification mark to ensure that materials can be sorted according to a single type. No material protecting agents or halogen-organic combinations are used that prevent subsequent recycling. A total of 71 percent of components of the chair can be recycled.

Returnable transport packaging

Returnable transport packaging made from renewable raw materials is used for office chairs from the Solis range that can be reused, recycled or composted.



International awards

2002: Innovationspreis Architektur und Office (Innovation Prize for Architecture and Office)

2003: reddot design award

2003: Internationaler Designpreis (International Design Prize) Baden-Württemberg in Gold (Solis) and Silver (Solis F)

2004: Good Design Award "G-Mark" Japan