Schindler 7000

The green power within the high-rise elevator.

Schindler

Mobility begins in the mind. So does ecology.

Mobility is an essential requirement in the world in which we live and work. Schindler stands for mobility and is recognized as a hallmark of quality and safety: every day, more than 900 million people across all five continents place their trust in Schindler products and services.

To us, mobility is more than just our product: Mobility begins in the mind with focus on ecological aspects. Schindler is committed to continuously improving the environmental impacts of our products and processes.

Think globally, act responsibly
Reducing globally ever increasing energy consumption is one of the very great challenges mankind is faced with. In order to obtain a general overview of the ecological performance of Schindler elevators, and to identify further potential for ecological product improvement, Schindler conducted a study of some representative elevators using an accepted methodology, called life cycle assessment LCA. The LCA study applied the rules of ISO 14040 – 14043 and underwent a critical review by an external expert, independent of the LCA study.

The findings of this study have been implemented in the Schindler 7000 high-rise elevators.

Less material. Less energy consumption. Less is more.

Life cycle assessment (LCA)
The comprehensive life cycle assessment analyses elevators in all life cycle phases – development, raw material acquisition, production, packaging and transport, utilization and maintenance as well as disposal. This LCA demonstrates that power consumption of an elevator for operation and standby over a life cycle of 20 to 30 years causes at least two-thirds of the total environmental impact.

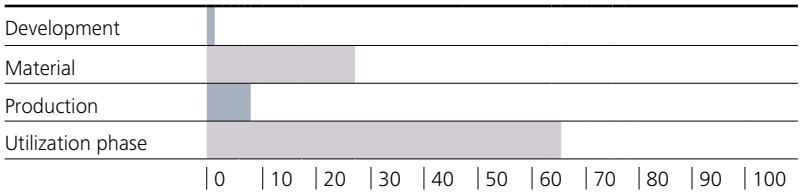
By far the largest potential for reducing the environmental impact thus lies in the utilization phase, followed by raw material acquisition and disposal (refer to chart below). How power consumption can be optimized is described on the following pages.

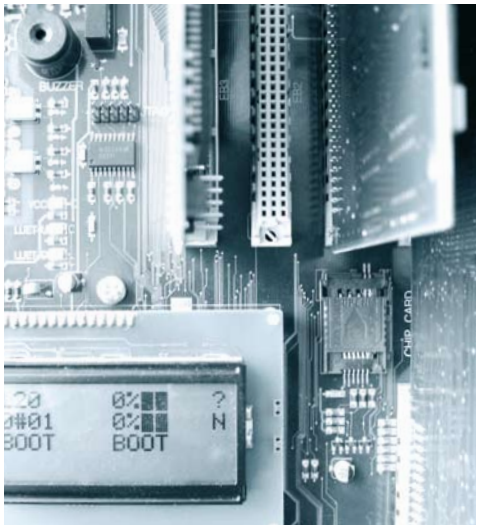
Environmental fact sheet
A detailed fact sheet on the environmental performance of a representative Schindler 7000 installation is available. It contains quantitative data on materials used; electricity consumed during the utilization phase, environmental impact assessment for various impact categories, such as global warming and ozone depletion potential, and waste disposal guidelines.

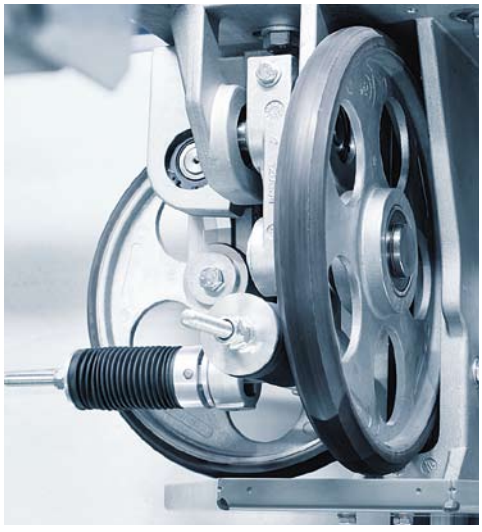
Recycling and disposal
Schindler 7000 uses carefully selected materials in the design of its products. The high-rise components consist of a high proportion of metals, which are recyclable. Over 85% of the total weight is recyclable material, made out of different alloys of steel, cast iron, and copper.

Schindler 7000 – environmental impacts

Relative contribution to total environmental impact of phases shown [%]







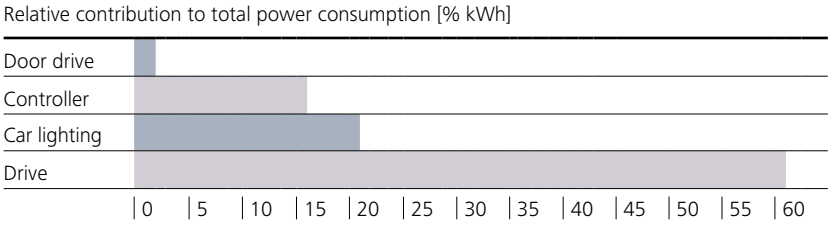
More efficiency. Less power consumption.

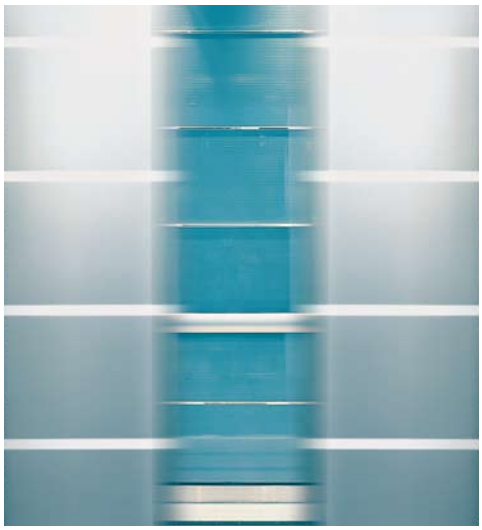
The utilization phase clearly causes the highest environmental impact due to the energy consumption during operation and standby of the elevator. Energy consumption is therefore a key factor to observe. Besides the power consumption of the drive, the car light, if always on, can contribute significantly to the overall power consumption during the utilization phase.

Green solutions within Schindler 7000
Today, all Schindler high-rise components are backwards compatible. All new components can be replaced or newly installed into existing installations, which increases the lifetime of the elevator system.

Schindler 7000 offers as a standard solution the energy saving standby power operating mode. The compact system design reduces shaft and machine room size, which provides energy efficiency and more rentable space. The clever machine design of Schindler 7000 allows all parts to be replaced for repair and modernization, which affords you material savings, energy saving and increases the life of the machine. With our compact high-reliability components, we cut maintenance and energy costs to a minimum.

Schindler 7000 – power consumption during utilization phase (30 years)





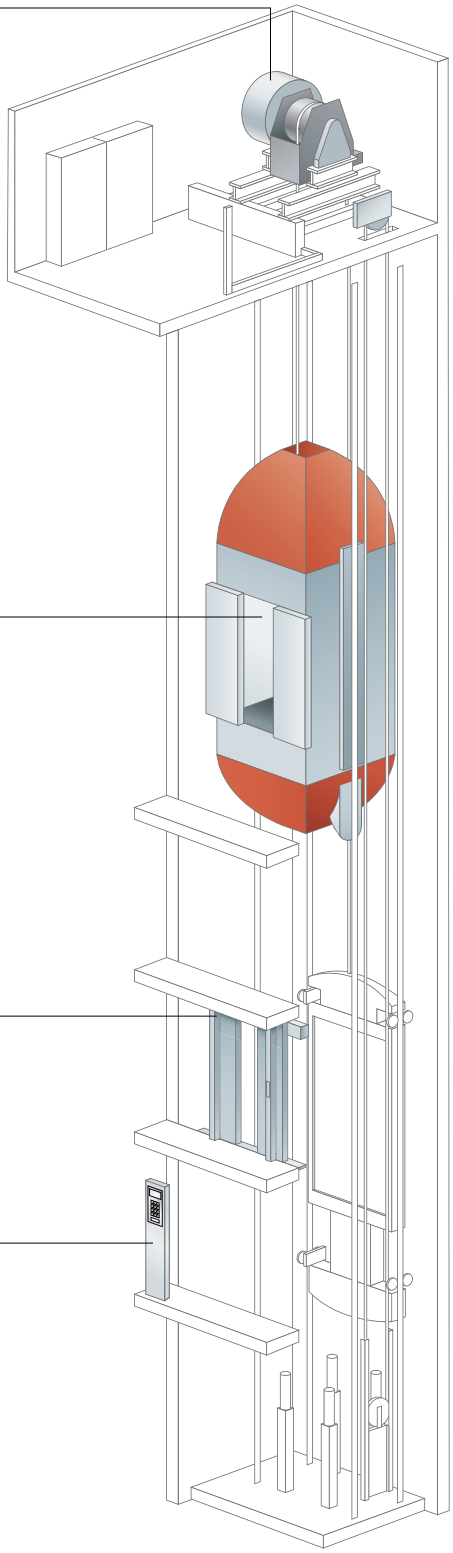
When caring about the environment means more than only saving energy.

Drive system
- Synchronous and asynchronous gearless motor technology
- Outstanding ACVF technology
- Best in class Power factor 1 technology and THD (total harmonic distortion) of < = 3%
- Top efficiency factors
- Reduction of energy consumption
- Return of regenerated energy to power line

Car
- Automatic switch-off of car lighting if elevators are not in use
- Use of highly efficient roller guide shoe

Door system
- Highly efficient synchronous and asynchronous motor
- Low-friction mechanics

Traffic Management System
- Schindler development: Intelligent, energy-saving application thanks to microprocessor technology
- More performance with fewer elevators
- Direct travel with minimum stops
- Faster availability of cars
- Reduction of empty car operations



Schindler 7000 – All-embracing ecology
Schindler works with the most experienced project managers worldwide, who guarantee efficient project management with just-on-time deliveries. We are therefore able to save energy and time due to less interim storage being required for each project phase. Schindler 7000 can be sourced through a host of sourcing locations worldwide, which minimizes transportation and the associated energy consumption. We guarantee optimized packaging of all high-rise components, using recycled materials to reduce the waste on the construction site. The implementation of all these energy saving measures means that with the use of the Schindler 7000, the environmental impact is reduced to a significant extent.

Subsystem	Ecologically qualifying factor	Positive Impact on: Material resource savings	Hazardous substances reduction	Durability	Recyclability
Drive system	THD (total harmonic distortion) < = 3%			•	
	Line impedance < 50 mΩ			•	
	Minimum heat dissipation due to energy recuperation			•	
	More compact design: footprints smaller than shaft size; reduced drive weight (e.g. FM560 30% lighter than preceding machine)	•			
	Large diameter increases life time of traction sheave and ropes			•	
	Amount of epoxy resin for stator winding reduced		•		
	Substitution of lead by steel for balancing weight of traction sheave		•		
	Can be dismantled much faster into parts than preceding machine				•
	Major parts are made of steel and cast iron: high recycled content; high recyclability	•			•
	Elimination of DC-commutator carbon brushes		•		
	No oil required	•	•		
	Brake lining free of any harmful material		•		
Car	Water-soluble undercoats and paints	•	•		•
	Minimal use of oil and grease	•	•	•	•
Door system	Optimal production of door panels (less waste material)	•			
	No oil and grease required	•	•		
Traffic Management System	At best, the Traffic Management System means you can dispense with an entire elevator system	•			
	Machine-, hoistway- and travelling-cables partially available in halogen-free quality, depending on controller type and manufacturing		•		
	The cabinet is now more compact in the layout of its electronic components	•			

We don’t just talk green, we act green.


Hearst Tower, New York

The Hearst Tower, with Schindler 7000 elevators, is New York’s first Gold LEED® certified building.

The 46-storey tower in Midtown New York is unmistakable thanks to its energy-saving, diamond-shaped bands of glass and steel. Designed to be 26 percent more energy-efficient than a standard office building, 90 percent of the steel is recycled, including the interior diagonal columns and braces behind the façade in the tower’s 10-storey atrium.

The Hearst Tower boasts numerous energy-saving features, including:

- glass coating to reduce solar radiation and consequently the need for air conditioning;
- a limestone atrium floor with embedded polyethylene for circulating water for cooling in the summer and heating in the winter;
- high-efficiency heating and air-conditioning equipment that uses outside air for cooling and ventilation for nine months of the year;
- the «Icefall»: a two-storey waterfall that chills the 10-storey atrium, drawing off warm-season heat using rainwater from the roof.

The 15 Schindler 7000 high-rise elevators installed in the building operate with a maximum of energy efficiency. This applies to the machines, lighting, door drives as well as the controllers. The entire passenger traffic is controlled by the revolutionary Traffic Management System, therefore the number of necessary journeys is reduced. This permits significant savings in overall energy consumption by the elevator systems.

When it comes to green, we show our color.


Heron Tower, London


Torre Titanium, Santiago de Chile

London's Heron Tower, with its Schindler 7000 elevators sets a new standard in environmental design.

Apart from the aesthetic impact on London's skyline, the structure will have a significant influence on its immediate surroundings, not least with the creation of a green public space around its base.

The building's environmental credentials are every bit as impressive as its architectural ones. The glass façades and the open-plan atria, each three-storeys high, allow daylight deep into the interior of the structure, keeping artificial lighting to a minimum. The double-deck Schindler 7000 elevators and the staircases on the perimeter wall are also lit by daylight, and in mid-season ventilated naturally.

The Schindler 7000 elevators play an important part too: all are equipped with the facility to regenerate excess energy back into the system. Moreover, Schindler's state-of-the-art Traffic Management System saves energy by directing users to elevator taking the most direct route to their floor.

The Torre Titanium, equipped with Schindler 7000 elevators, is the first building in Chile to be certified by the U.S. Green Building Council.

The building sets an entirely new benchmark in terms of environmentally sound construction and energy utilization.

The Torre Titanium's energy-saving features are equally impressive. Not only does the tower permit energy to be recovered, it is constructed from environmentally friendly building materials and makes use of recycled material wherever possible. These innovations, along with an array of additional features, led to the Torre Titanium's pre-certification as a «Green-Building».

Schindler is supplying 20 high-rise elevators for this prestigious building. Their entire concept has also been drawn up to meet exacting environmental requirements – not only in terms of design but also with regard to efficient use of energy during operation and subsequent removal and refurbishment. Schindler 7000 elevator systems have been thought through down to the last detail, and make a beneficial contribution to the positive energy balance of the building.

Local environmental management for global climate protection.

Our Technology and Strategic Supply Management group operates an environmental management system (EMS). It has been certified in accordance with ISO 14001 since December 2000. This area covers Corporate Research & Development and Corporate Purchasing. Schindler 7000 was developed under the auspices of the above EMS.

LEED®
The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a «whole-building» approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Schindler high-rise products and services can also contribute to the achievement of various LEED credits.

Visit our corporate citizenship report
Numerous initiatives reducing the environmental impact of products and processes have been realized. For more information visit the environmental section of our corporate citizenship report on http://corpcit.schindler.com

At Schindler, we never stand still – driven by our aim to be the partner of choice for our customers and to deliver a substantial contribution to the environment.



A partnership
which takes you to the top.

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