

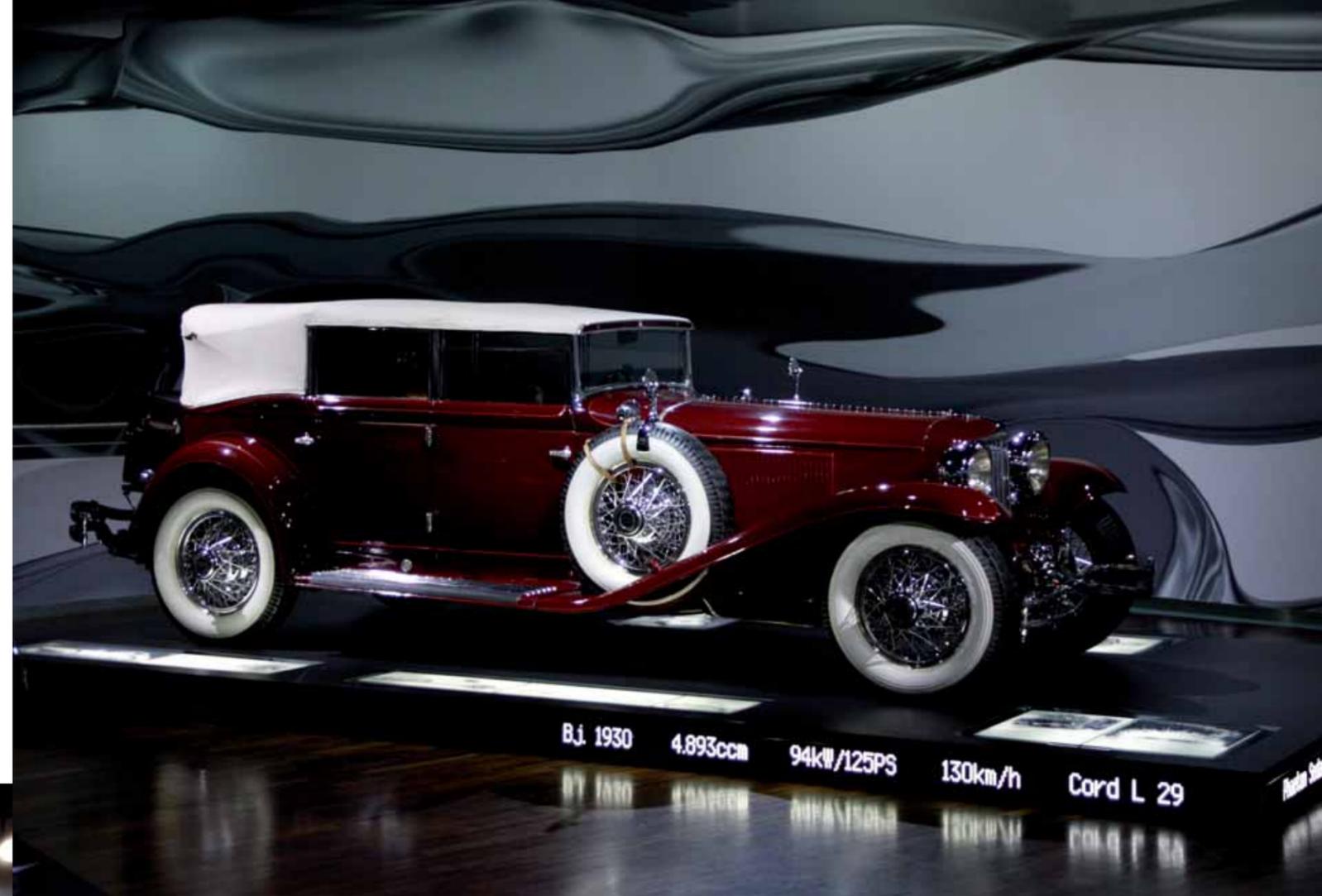
Upside down

A new perspective of the icons of automobile history.
ZeitHaus – Automobile Museum in Wolfsburg/D.

Text: Kardorff Ingenieure

Photos: Autostadt GmbH, Wolfsburg, Kardorff Ingenieure

The ZeitHaus Museum presents the milestones in the 126-year-old history of the automobile industry, taking as examples over 100 vehicles from a wide range of automobile manufacturers. The philosophy of the museum is to show trendsetters: cars that set standards and served other manufacturers as models or examples for their own developments, be they of a technological, conceptual, design or manufacturing nature. And since the lighting solution has turned the exhibition spaces upside down, you can be forgiven for turning the following pages upside down to appreciate the effect to the full...



In the "Corpus" section there is a sub-exhibition entitled "Design icons", where the exhibits are mounted on podiums.

The viewer's perception of the five-storey building section that looks like a glazed display cabinet is enhanced by the use of LED lighting and mirrored ceiling surfaces. Thanks to the reflections, the exhibits can be seen from many different perspectives from outside – and from a distance. Just by looking up, visitors to the museum can already see reflections of the historic automobiles from the main lobby, a view to whet their appetite for the rest of the exhibition.

In the exhibition spaces themselves, visitors gain a completely new impression of the car bodies on display: the exhibits can literally be viewed from all sides. The mirrored ceilings (mirror foil spanned on aluminium frames) optically enlarge the exhibits in the so-called "Rack" section. Discreet recessed LED spotlights make for a calming, uniform feel to the space.

In the non-glazed section on the opposite side, the so-called Corpus, in-depth information about the history of the automobile industry is presented. The part of the exhibition entitled "Design icons" comprises exemplary vehicles mounted on podiums.

Viennese artist Peter Kogler was the one who came up with the design concept for the exhibition. He brings together contemporary art and classic automobility, and enables visitors to view the remarkable collection in a totally new dimension. Huge space-encompassing installations structure the exhibition space and encourage the viewer to toy with his perception of the forms mirrored around him. The monuments with their organic contours retroact with the automobile milestones on display in the ZeitHaus and reveal them as sculptures.

To avoid clutter on the ceiling, the lighting concept uses the same luminaires throughout. The light is focused specifically on the individual exhibits. The colour temperature of the LEDs is aligned to the colour of the mighty machines on display, bringing out the quality of the paint, the texture of the surface of the chassis, and the character of the different vehicles to an optimum. All luminaires are equipped with a DMX control interface and can be addressed individually. That means that brightness and spectral distribution can be adjusted from one controller.





Night-time view of the mirrored ceiling surfaces.



Two different colour temperatures were applied: 3500 Kelvin and 4800 Kelvin. The fixtures with the 4800 Kelvin can be controlled via two channels. By dimming the warm white or cool white LED components the colour temperature and brightness can be adjusted as required. In the case of the warm white spotlights (3500 Kelvin) LEDs with just the one colour temperature were used to compensate for the lower luminous flux of the warm white LEDs compared with the cool white fixtures. This configuration of wide and narrow-beam fixtures optically generates uniform brightness levels on the exhibits and in general creates a harmonious overall picture.

The metal halide lamps formerly used to illuminate the exhibition spaces have been replaced by LED spotlights (ca. 90 watts). These have a longer rated service life and are more energy-efficient.

Project team:

Client: Autostadt GmbH, Wolfsburg/D

Architects: Henn GmbH, München, Berlin/D

Lighting design: Kardorff Ingenieure Lichtplanung GmbH, Berlin/D; www.kardorff.de

Realisation:

Maedebach Werbung GmbH, Braunschweig/D

Nordsound Event- & Medientechnik, Oebisfelde/D

Products applied:

538 recessed LED spotlights, wide beam;

70 recessed LED spotlights, narrow beam

Colour temperature:

4000 Kelvin, 34 watt / luminaire; approx. 1900 lm per fixture

Manufacturer: LBM/Endo

All luminaires individually addressable via DMX

Mirrored surfaces: Approx. 1200 m² high-precision mirror foil spanned on an aluminium frame

Manufacturer: Alluvial

Exhibits on display: the space appears to be larger than it is due to the mirrored ceiling.