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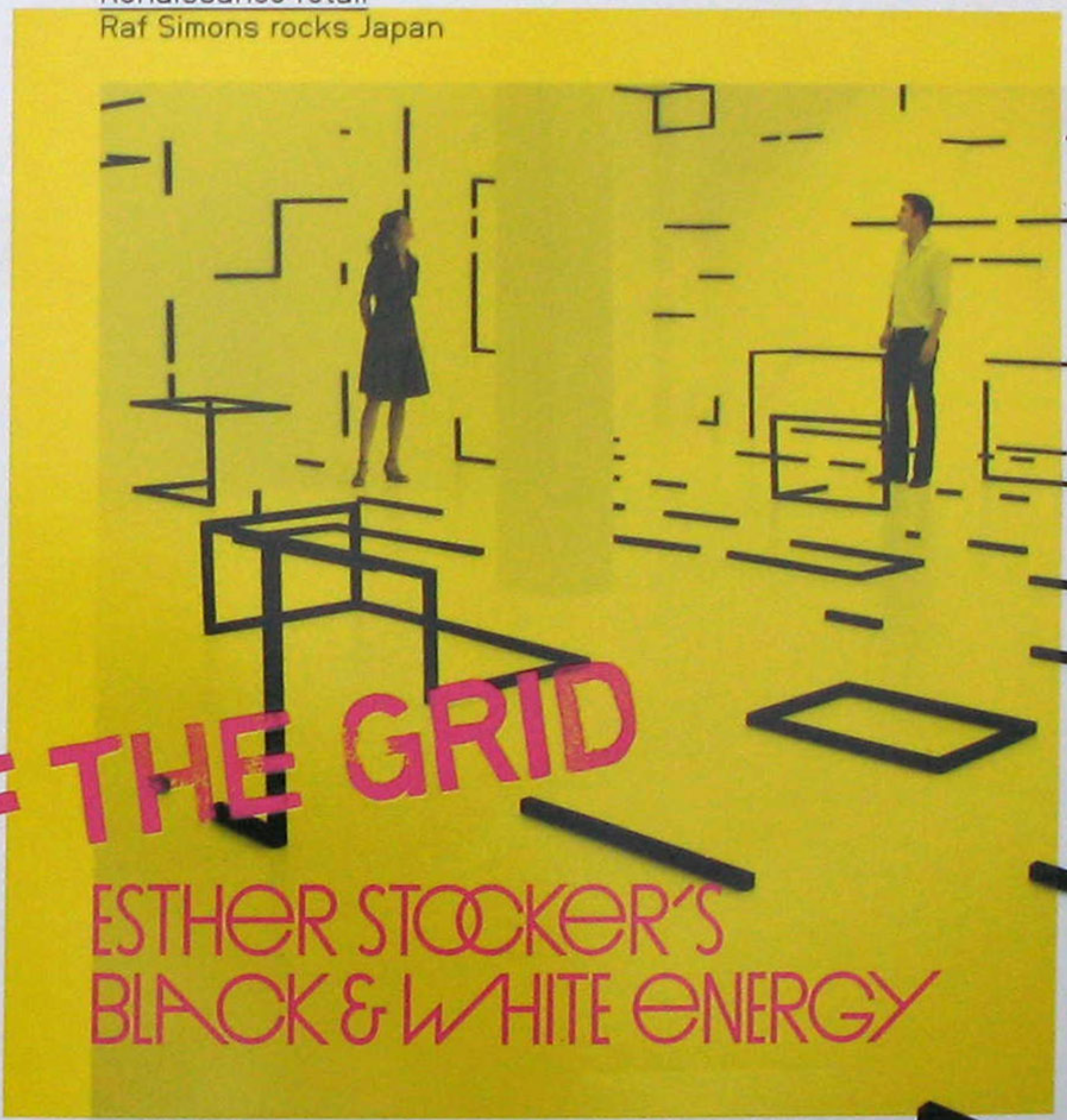


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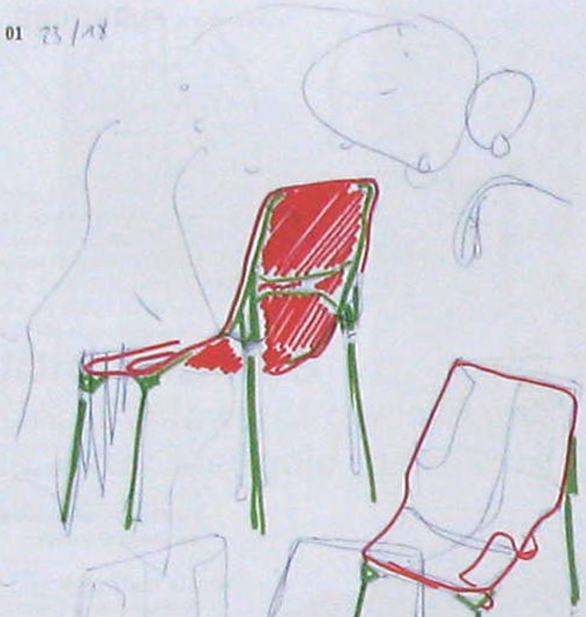
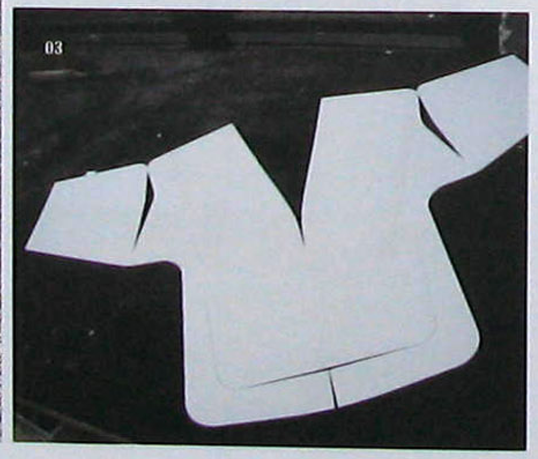


# METAL GURU

## Stefan Diez devoted three years to giving his sheet-metal Chassis chair the flowing form and elegant elasticity of plastic.

Words Petra Schmidt
Photos courtesy of Wilkhahn and Stefan Diez



01 *Preliminary sketch showing the frame in green and the seat in red.*

02 *Using a paper model, Diez worked on combining a metal frame and a leather seat.*

03 *Seat pattern for the paper model: at this stage of the design, the 'leather' seat covered the 'metal' frame.*

04 *STL-plotted model of the sheet-metal frame.*

05 *Early presentation model in painted cardboard (right) and an STL-plotted model with textile (left).*

06 *Sketch showing cross sections of the thin, elegantly flowing frame.*

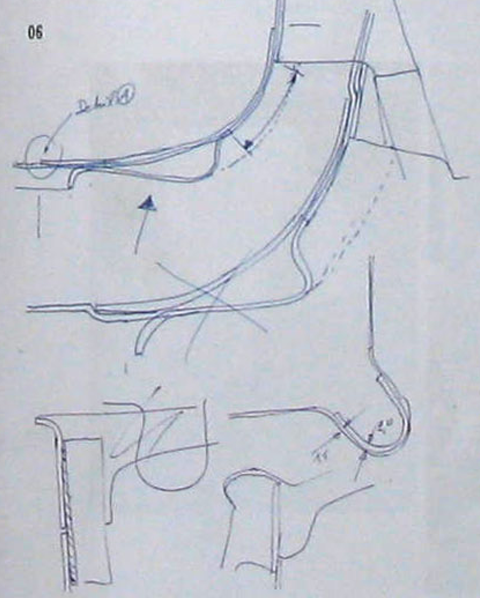
07 *Mould for deep-drawing process used in the automotive industry; the same process applied to the chair results in a lightweight but durable frame and elastic structures previously achieved only in plastic.*

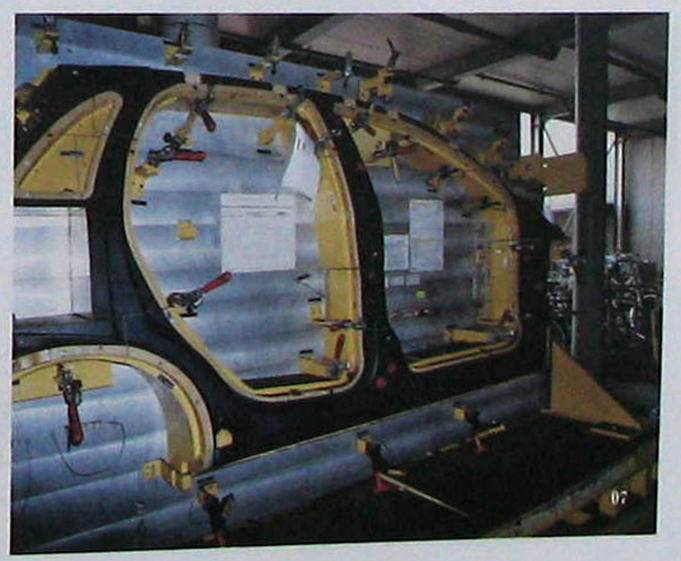
Actually, Stefan Diez doesn't like theories. He's a practical guy who enjoys getting his hands dirty. That's why he's an industrial designer. His base, a converted woodshed in the heart of Munich, consists of a workshop, an office and an apartment for Diez and his wife, jewellery designer Saskia Diez, and their two young daughters, Selma and Helena. Models for new furniture designs stand next to the washing machine and the playhouse.

Despite his pragmatic, down-to-earth nature, Diez admits almost reluctantly that he, too, has developed a theory. Diez believes that current manufacturing technology will revolutionize the process of developing forms in design. He argues that today's designers have completely new creative possibilities, thanks to the globalization trend that has seen the technology drivers of BMW, Porsche and VW outsource the industrial production of parts to external companies. 'In the past, the entire process took place within the automotive company,' he explains. 'It was their factory secret. Today, outsourcing makes these technologies much more accessible. We just have to find them.' If he's right, it could mean goodbye to the monotonous use of near-identical forms and production methods. Design as a whole may be facing a major revitalization.

Diez provides the evidence with a new chair whose name, Chassis, is telling. Work on the potential classic is not yet finished; it's still a prototype. But at the Orgatec office-furniture fair in Cologne, both public and press reacted positively to the chair, which Diez developed for renowned German office-furniture firm Wilkhahn. No wonder: manufactured by an auto-body company, the chair is extremely light—the legs are hollow—but also incredibly durable. The prototype features a leather-clad seat and a frame made from deep-drawn sheet metal, but plans exist for marketing Chassis in wood or even mesh.

Chassis has an elegantly flowing form and air of elasticity previously achieved solely in plastic. It's only the coolness and sound of metal that reveal the actual material. This is sheet-metal work at its highest level and a novelty for the furniture industry. At the same time, however, it's a technology that can look back on a long, broad tradition in the ›





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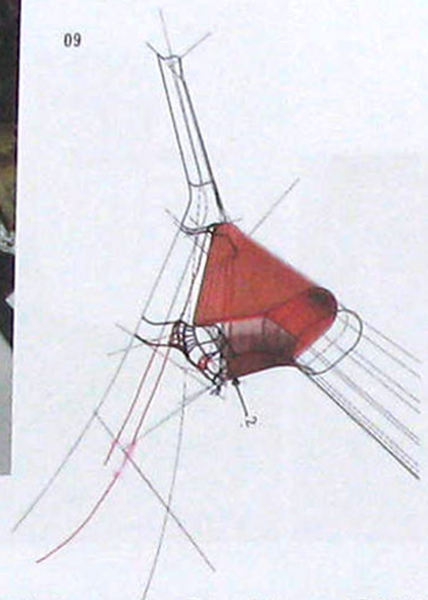

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**08** *Diez adjusts the volume of the frame, which is just millimetres thick, using clay on a steel model.*

**09** *Computer sketch with hand-drawn solution for back leg join. The technique used to make the chair produces hollow, lightweight legs that are remarkably strong.*

**10** *Other members of the team, left to right: Norbert Ruf (design manager, Wilkhahn), Dominik Hamer and John van Maastricht (Polynorm), Hans Wahlen (development chief, Wilkhahn). Polynorm, a potential producer of the chair's metal components, helped to develop the frame.*

automotive industry, where engineers have improved such methods over decades, driving the deep-drawing process, for example, to the boundaries of what's doable. Fine sheet metal can now be shaped into highly durable and elastic structures. Diez has taken advantage of these developments: Chassis consists of metal that's just millimetres thick, and because of the stable frame, the seat can be exceptionally thin, since it doesn't have a load-bearing function.

But all these considerations were unthought of at the beginning. When Wilkhahn knocked on the door of Diez's still-young office three years ago, the manufacturer's brief stipulated a stackable, multipurpose chair that would be suitable for both conference room and outdoor use and which could be produced in large quantities. Diez quickly moved beyond the first concept, which was a chair that resembled a bike saddle and had a lightweight frame with a folded leather overlay.

Initial contacts with auto-body manufacturers were difficult. 'For these companies, a 10,000-piece production run isn't even interesting. And nobody wanted to introduce us to the technology required. But to design to the metal's best advantage, you need a partner who can explain how it works,' says Diez. No one in Germany was inclined to help.

The young Bavarian designer, who had always seen Germany as the location for high-tech production, seems almost embarrassed when recalling that, much to his amazement, support ultimately came from the Netherlands, the cycling nation. John van Maastricht of the Bunschoten-based firm Polynorm—specialists in auto-body parts for discontinued and luxury vehicles—trained him in modern metalworking.

Wasn't this approach a bit too high-tech for a conservative German design firm in Bad Münder? 'No,' says Diez. 'Very early on, Wilkhahn let me know that they were ready to take this path. It was like their promise to me.' With his design, which will be expanded to include an entire product line, Diez hopes to connect with the firm's past successes. 'For me, Wilkhahn's FS chair is still a milestone,' he says. The ergonomic FS chair, the result of intensive research, revolutionized office-chair design 20 years ago. Now Diez's own Chassis looks set to have an even greater impact.

www.stefan-diez.com

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This is sheet-metal work at its highest level: a novelty for the furniture industry

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**11** *A paper model was also used to design a version of the chair with armrests. Thanks to the stability of the frame, Diez was able to develop a wafer-thin seat.*

**12** *Diez with Andreas Mayer, who made the prototype for Orgatec, the fair at which the chair was introduced.*

**13** *Stefan Diez finishing a handmade model for the fair.*

**14** *Completed Chassis prototype, with a black sheet-metal frame and a leather seat.*