MYTO

a cantilever chair

the making of MYTO
a project by

BASF
KGID
PLANK

Ludwigshafen / Munich / Ora

MYTO the making of

The Point of Departure.

This documentation of the MYTO project sheds light on the process of its creation, along with all of the different phases, controversies and problems as well as moments of creativity and joy.

"When you observe Konstantin Grcic at work in his studio and see elegant, sculptural prototypes emerging from industrial raw materials, it becomes obvious how closely related his work is to a sculptural process. At the same time, certain pop and fashion codes cannot be overlooked. Seen from this perspective, his designs reflect the hybridity of our time.

MYTO highlights this moment, thereby marking a continuation of the tradition of cantilevered classics in a charismatic manner. A similar attitude is also documented in this publication. The aesthetic is derived from the visual stages of three mutually interdependent processes: traces of creative discovery, the analytical, cryptic moment of technical feasibility, and the revealing impressions of the reality of industrial production."
Mike Meiré, Art Director, on the concept of this publication.

The development process is now complete. The production process is beginning. It was possible to engage the Dutch artist Viviane Sassen for the photographic première.
In the hyperbolic snapshots characteristic of her style, she has set the scene for the arrival of something special: MYTO.

MYTO the making of

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Timeline

21.- 22.06.06	BASF, Ludwigshafen, Germany: BASF Universal Days workshop
05.09.06	KGID, Munich, Germany: Anja Bakker and Thomas Fritzsche from BASF commission KGID to design an application using the BASF material Ultradur® High Speed. Konstantin Grcic introduces the Italian furniture company PLANK into the project
26.09.06	BASF, Ludwigshafen, Germany: first meeting with BASF/KGID/PLANK reviewing Ultradur® material samples
06.11.06	PLANK, Ora, Italy: meeting with machinery maker and injection moulding company
November 06	KGID, Munich, Germany: design phase
08.12.06	KGID, Munich, Germany: general design direction found
21.12.06	KGID, Munich, Germany: first foam models
09.02.07	KGID, Munich, Germany: presentation of design concept to all partners
February - June 07	BASF, Ludwigshafen, Germany: dynamic and static stress analysis of the design concept with help of computer-aided engineering (CAE)
19.02.07	KGID, Munich, Germany: final direction of general shape
15.03.07	KGID, Munich, Germany: 3-D data exchange starts with the mould maker, study of seat patterns
26.03.07	KGID, Munich, Germany: ultimate foam model, final ergonomics are determined
26.04.07	KGID, Munich, Germany: design for seat pattern
April - May 07	BASF, Ludwigshafen, Germany: development of first Ultradur® High Speed materials for MYTO
16.05.07	KGID, Munich, Germany: final 3-D data
21.05.07	BASF, Ludwigshafen, Germany: begin of mould flow analysis
08.06.07	PLANK, Ora, Italy: first full-scale sinter model
15.06.07	PLANK, Ora, Italy: final review on details, monitoring of the mould-making process
03.- 04.07.07	Frankenthal, Germany: BASF K-fair press conference, world première of MYTO
29.08.07	Injection moulding company, Italy: first off-tool chairs
19.09.07	PLANK, Ora, Italy: design revision
27.09.07	KGID, Munich, Germany: design changes completed
24.- 31.10.07	K-Fair, Düsseldorf, Germany: MYTO is presented at the BASF stand at the world's biggest plastic fair
November 07	BASF, Ludwigshafen, Germany: development of final Ultradur® High Speed material for MYTO
07.02.08	KGID, Munich, Germany: decision on colours for MYTO
February 08	BASF, Schwarzheide, Germany: production of final material Ultradur® B4300 ZG6 High Speed
03.03.08	Injection moulding company, Italy: pre-production
March 08	Mould maker, Italy: mould finish
01.04.08	Injection moulding company, Italy: start of the production of MYTO
16.- 21.04.08	Salone Internazionale del Mobile, Milan, Italy: market launch

MYTO In Full Swing

Essay

Petra Schmidt

The cantilever chair has had a greater influence on modern design than any other. Yet in recent years, designers have tended to devote little attention to products of this type. However, with the advent of the cantilever chair MYTO, it is not only this typology that returns to our everyday lives, but along with it a swinging way of sitting.

For over 200 years it has been possible to rock back and forth on a chair and then come to rest with a gentle, modulated bounce. Rocking chairs have existed for that long. Napoleon already had one. And American settlers relaxed in them while recuperating from the effort of conquering an entire continent. After the first tubular steel cantilever chair was created in the 1920s, however, a whole new feeling in seating was discovered. Avantgarde designers created chairs that made it possible to rock nervously or bounce tensely: The swinging modern movement.

As early as 1930, Albert Sigrist explained the new chair form and its users in his "Buch vom Bauen": "It might be possible to say that the only people who feel comfortable on these chairs are those who have come to consider the incessant, underlying tension of modern life, a sense of motion and velocity that continues even in a static state, to be essential in defining their existence, to be a crucial component of their feeling for life."

The cantilever chair represents like no other the cradle of modern design: the Bauhaus. Three of the most famous Bauhaus designers were involved in the development of the first tubular steel, cantilever chair. While Mart Stam's first prototype (1926) was intended to be a proof of his concept and made of rigid gas pipes, Marcel Breuer and Ludwig Mies van der Rohe set the chair in motion between 1927 and 1929 by using more flexible steel tubing. In the following years the cantilever chair attracted every famous designer, since it always involved embarking into new territory, experimenting with materials, innovation and, of course, fame and recognition.

Alvar Aalto created his famous cantilever laminated wood chair, "No.31", Gerrit Rietveld his "Zig-Zag Chair", the Castiglioni brothers their tractor chair, "Mezzadro", and naturally Verner Panton his colourful, sculptural monoblocks, simply called "Panton Chairs", which had a tremendous influence on design throughout the 1960s and 1970s. In the 1980s, Stiletto's "Consumer's Rest", made from a revamped shopping cart, and Shiro Kuramata's airy, steel mesh chair "Sing, Sing, Sing" were added to the list. However, in the early 1990s, with the reemergence of Retro design, designers seem to have run out of new ideas. Everything seemed to have been done already, the design classics like the "Panton Chair" were more popular than ever before. Hence, this icon of style was featured again on the cover of the British edition of "Vogue" in 1995, in a photo in which a naked Kate Moss was lounging on it being yet another very attractive star. It seemed as if Retro and Pop were being equated with a new lifestyle. Hence, Konstantin Grcic felt "almost reckless" when he suggested a cantilever chair as a joint project when BASF asked him to become involved in a cooperative venture using their engineering plastic Ultradur® High Speed. "There was suddenly so much leeway."

It is not surprising that everything seemed possible to Grcic.

Most designers had been particularly reluctant to become involved with injection moulded, plastic monoblock, cantilever chairs in the post-Panton era. The material was considered difficult. Not only because it meant being measured against an icon of style, the durability of plastic also continued to be a problem for quite some time.

A new material like PBT (polybutylene terephtalate), which is the basis of Ultradur®, combines great tensile strength with the kind of high flow velocity that was necessary to achieve finely modelled cross-sections. Grcic's chair now introduced a new era, beyond the well-worn path of Retro design. Finally we are seeing formal and technical innovations, new materials. Impulses of the kind that Bauhaus designers incorporated into their work. They also allowed themselves to be inspired by the new technology of their day, the kind that was being applied to automobiles, airplanes and bicycles. This is the tradition in which the MYTO chair, produced by PLANK in Southern Tyrol, follows.

A distinguished representative of its category. The new plastic chair openly displays its constructive details, making full use of the possibilities of the new material and presenting a variety of new formal approaches through its austere, technical language of forms. It may give rise to a new boom in plastics. Who knows? It has already had one important effect: it has brought the swing back to modern seating.

Petra Schmidt, (born 1964) works as design consultant and freelance writer for various magazines such as "frame and art", and she is co-editor of the successful book "Patterns in Design, Art and Architecture". She was editor-in-chief of the German design magazine "form" from 1999 until 2007. She first joined form in 1996 as the editor of "form diskurs-Zeitschrift für Design und Theorie". By profession a design journalist she studied media studies at Frankfurt University and was a staff member of various ad agencies.

MYTO the making of

Interviews

Petra Schmidt in conversation with:

Thomas Fritzsche
and
Kurt Höfli,
BASF

Konstantin Grcic
and
Alexander Löhr,
KGID

Michael Plank, Martin Plank
and
Peter Gruber,
PLANK

BASF

Thomas Fritzsche, who holds a degree in engineering, is a Business Manager at BASF. His group is responsible for Ultradur®, a technical plastic that exhibits a high degree of tensile strength and flowability.

You produce plastic granulates. That means piles of a raw material with no particular shape. Why, then, are you interested in design?
There are strategic reasons. We are now very well established in the electrical and automobile industries, where we are even the market leaders. That's all well and good, but there is not much more that you can be beyond number one. The "Sports, Furniture, Leisure" sector, on the other hand, offers good opportunities for growth. And while in other areas the people in charge of construction decide what's going to be done with the material, here the designers decide what's going to be used. That's why we invited various designers to a workshop called "Universal Days" that we staged along with the German Design Council.
We wanted to lower the barriers between designers, researchers and constructive engineers. With our backgrounds in natural sciences, we don't speak the same language as designers. We talk about tables and formulas. Designers want to see components and feel samples of the materials.

Were you the one who initiated the MYTO project?
No, it developed gradually during a series of discussions. After the workshop, Konstantin Grcic called our designer Anja Bakker. The discussion initially led to a meeting in Munich and, finally, to a joint project.
We all decided that our objective was to present a chair, a real one, at the plastics trade fair K 2007. Not one of these new interior design visions that you only see in magazines. We wanted to produce a real product that people could actually buy. Since we only had one year, we got to work right away. And it was a tremendous amount of work.

Is it really that difficult to design a cantilever chair made of plastic?
Most people would think that it wouldn't be a problem at all for BASF. Our specialists, in particular, were sceptical. Experienced engineers came to me and said: "Today, while I was brushing my teeth, I estimated your parameters again, and with those dimensions and that weight, you can forget the whole thing."
Planning its construction was a tremendous challenge. Why its construction? One often reads that you are able to ensure the stability of a product by changing the composition of the plastic. That means the end of "form follows function" - designers now have total freedom.
No, that view is unrealistic. Even when dealing with plastics the form has to follow the function.
We can't compensate for everything that was neglected in planning the construction by simply changing the material. Many people go directly from the design stage to having a mould built only to discover later that their component fractures. After having spent a lot of money on the mould, they then come to us to complain. That's not the way to do it. You first have to eliminate all the technical problems on the constructive level. We have people who specialise in dealing with these problems.
We recommend that companies and designers contact us at the preliminary stage.

Kurt Höfli is the Head of Marketing for BASF's Engineering Plastics in Europe. He paved the way for the MYTO project.

It's said that you also have a personal interest in design.
Yes. That has something to do with my family - my wife is a designer and my daughter has just completed a degree programme in design. However, I am an engineer.

Then, of course, you view design and engineering as a successful combination.
As long as form follows function, I think design is wonderful.
I don't like fancy creations and excessive formal experimentation.
Even with MYTO we had to work for quite a while before form and function really harmonised with each other.
For example, the chair initially swung from side to side instead of bouncing up and down. This problem could only be solved through the geometry.
A designer has to be willing to learn from engineers in such cases.
Konstantin Grcic has no inhibitions in this regard.

What does the home of a plastics engineer with an affinity for design look like?
A dining table with any number of plastic chairs grouped around it?
You're not far off the mark.
About fifteen years ago, a "Society for the Development of Plastic Recycling" was established to promote the recycling of plastics.
In this context the designers Bär & Knell created various pieces of furniture.
I still have four of their chairs and the matching table.

Also cantilever chairs in plastic?
No. Up until now there was only the "Panton Chair", and perhaps a few copies. The topic was neglected for years, it was considered too difficult for technical reasons, since the plastic has to be both rigid and flexible.
The first "Panton Chair" was made of polyester resin, this material is smeared into a form and then reinforced where necessary.
Surfboards and ships are made of the same material. Basically, it's craftsmanship.
Problems only arise when you go over to injection moulding and then to mass production. When the plastic is injected into a mould, you can't put the fibreglass in the places where it's needed for support.

But now that's possible?
Ultradur® High Speed is a technical plastic. It has nothing to do with plastic bags or other disposable products. It is extremely durable and can withstand high temperatures. That's why there are so many applications for it under the bonnet of your car, for example fuse boxes.
And now we're exploring more new applications for this high-tech material.

But isn't it unusual for a big company like BASF to launch such a small project?
No, not at all. Ultradur® High Speed is a so-called PBT.

We lead the market in this field. And the market leader must encourage innovation, otherwise the lead can be easily lost. That's what we we're doing here.

Might MYTO lead to something like a Renaissance in plastic furniture?
I don't think so. The wave of plastic in Panton's day had something to do with the newness of the material. Everything seemed possible. Those days are gone.

KGID

The German Konstantin Grcic is currently one of the most important designers worldwide. In his office in Munich he designs furniture and exhibitions as well as household appliances and lighting.

Mr Grcic, let's start at the beginning – the name MYTO. It sounds like mythos. Did this self-assured decision seem like an omen or a burden to you?
Only afterwards we realised how profound the name actually was. But then it ultimately became an omen – a good one. The project itself became somehow mythic as time progressed, however, that was never our intention.

Really?
Something like that can't be planned. Nevertheless, we had to be very convinced of the name, since making a false claim with "myth" would have been disastrous.

Looking at the chair, one gets the impression that you have found a whole new direction in terms of design: from the crystalline forms found in chair_ONE towards a more austere and technical language of form.
MYTO is, above all, one thing for me: a whole new phase in our work with injection moulding. In comparison to the techniques commonly used in the furniture industry like wood and metal, I find it tremendously liberating. It is possible to shape forms more precisely, to work with changing thicknesses and sections. Nevertheless, this chair – like many of my other designs – has a lot to do with construction. In contrast to the "Panton Chair", my project has a clearly defined framework that can be understood at first glance. The muscles that support the structure are easily recognisable.

Flowing lines and yet still constructive. Isn't that a contradiction?
What I like about this chair is that it has found its own language. Of course that also includes contradictions and rapture.
That's typical of my work. I was never interested in perfect form.

Does that mean there was never any kind of caesura?
If a caesura means having to start anew, then no. All of my work is interrelated. When we're working on a barstool like MIURA, we find many more approaches to that kind of project than we could ever realise and the next object benefits from it. It is correct to say that we have entered a new terrain with MYTO, one I had no experience with previously. What I mean, specifically, is the process of creating organic forms, the kind that you know only from sports equipment and cars. I have always fancied this type of "product design", but have rarely had the opportunity to work with it up until now.

Doesn't this new freedom lead to somewhat arbitrary results?
No, not arbitrary. Some of the things that we've now been able to realise were indeed the result of a certain recklessness. Given my experience with plastic, the framework and the mesh for the seat seemed interesting to me. As a result, I ended up pushing the specialists from BASF to their limits. The realisation was far more difficult than I imagined. Nevertheless, it was right to approach it in such an uninhibited manner: it was the only way for us to arrive at such new and innovative solutions.

In this project, you played an important role as a manager. After entering into cooperation with BASF, you went out and found a manufacturer, took charge of public relations, planned the presentation at the Triennale in Milan, and did much more. Are you interested in playing this kind of role more often in the future?
I learned my lessons a long time ago. In the meantime, I'm quite familiar with various relationships and mechanisms in design and in the furniture industry, and I can get things moving. Nevertheless, I would still not claim to have "managed" the project. My work as a designer always comes first. All those things you've been talking about are also part of the job description for a designer nowadays.

Alexander Löhr is product designer in Konstantin Grcic's office and was in charge of developing MYTO.

I have the impression that in developing MYTO you and Konstantin Grcic have discovered a new vocabulary of forms.
Exactly. It was a case of personal development. At the moment, there are a lot of cubic designs and folded surfaces. We needed to get out of that corner.

Konstantin Grcic believes that the form results more from the material and the process.
That's true. I have been working for Konstantin for seven years now. Many of our planar forms, as seen on the sofa CHAOS or the chair_ONE, were in part a consequence of the cardboard we used in modelmaking. This time we worked with an entirely different material. It was a perforated, flexible mesh. Obviously, the mesh is bound to result in more pliant forms than cardboard. Nowadays we use full-scale foam models and involve the computer at an earlier stage. Due to a greater use of the possibilities of 3-D software, we are able to achieve more precise and complex designs.

How do you design a comfortable chair? Are there any standards you can apply to your work?
It's better not to pay too much attention to standards, that way you're less constrained in your approach. Later, when working on the foam models, there is still plenty of time to test the comfort.

Are there any standards? Is there something like a Golden Section?
One rule we applied is that the angle of the backrest should come to 102 degrees. Konstantin has his own ideas about comfort and ergonomics. Martin Plank is usually responsible for those details. He has his measurable standards and his Golden Section.

But a cantilever chair has to be comfortable in an entirely different way. It has to have a little bounce.
Of course we put a lot of thought into it and experimented with the plastic. People aren't used to sitting on cantilever chairs any more. That's why we were surprised by the great feeling of sitting on it when the first chairs came out of the mould. You could feel the elasticity of the material, how flexible it was.

I'm surprised you don't have a "Panton Chair" in your office. There are so many chairs here, including many classics. But the chair with which MYTO is often compared is nowhere to be found.
Towards the end of the project we did in fact borrow one. At that point we were interested in the size. But the fundamental concept on which it's based is entirely different: you sit in a shell, and it's quite stiff. It is interesting to see to what extend the "Panton Chair" took over the field of cantilever chairs. Ultimately, no one dared to address the topic again for decades.

PLANK

The PLANK Furniture Company has been in business for four generations, and it has undergone major changes since it was established in 1893: from a craft-orientated workshop to a factory and, finally, to a modern industrial company. Today it is run by Martin Plank, the father, and Michael Plank, the son.

Up until the 1990s, your company in Northern Italy was still producing the typical beerhall chairs for local pubs. Now you produce furniture made of innovative material such as plastic in cutting edge designs. How did such a fundamental reorientation come about?
Martin Plank: That's true, we produced those typical "alpine chairs" with six spindles, the kind you find everywhere in that region. But then the market changed and there wasn't much demand for the style and the way they were produced anymore. So we made a really radical decision in the 1990s and revamped the entire company, beginning with the products.

But why the orientation towards design?
Martin Plank: My son Michael studied design along with business administration. That determined the direction we took. Michael Plank: In the beginning there was a lot of "experimentation". Every designer who contacted us was invited to a personal interview. We produced countless prototypes and models. There was a real sense of a new beginning.

Did that lead to success?
Michael Plank: No. We soon realised that the only way to find a market is to clearly define the direction you're taking. Design only offers strategic advantages when you put all your effort into the development of a product and when you're really innovative – that also makes it harder to copy.

What did you learn while working on MYTO?
Martin Plank: The interaction with Konstantin Grcic, his team and BASF was really interesting. Comparing details, taking a passionate stand on ideas. Konstantin calls it "playing ping-pong". Being involved in this kind of exchange is the only way to make progress when developing a product. You often see furniture companies hiring a famous designer, and producing a prototype, to show off at a trade fair, but then the design ends up in some drawer and is never seen again. That's not how we operate. We don't want to use designers like that, and, besides, we're not in a financial position where we could afford to. Whenever we have sold our souls to an idea, we go ahead with the project, and in the end we're successful, thanks to the help of everyone involved.

Plank has its roots in the wood industry. How did you get your mind set on the challenges of the plastics industry?
Michael Plank: Our background in woodworking has actually been an advantage in keeping our minds clear. If you have technical understanding and you put out your antennas, then you can also handle a project like MYTO.

Peter Gruber works as product developer at PLANK in Ora and gave the key impulse in naming MYTO. It all goes back to his childhood dream: a red motorcycle.

It's said that the name MYTO came to you in a dream. Is that true?
Searching for a name is always difficult, because there are so many chairs and, naturally, so many names. That's why we started with it at an early stage. The recommendations went back and forth between PLANK and Grcic's office. After all, the name was supposed to highlight the fact that this chair was special – a kind of dream.

Did you really come up with the name in your sleep?
No. One evening, on my way home, I was thinking about all the requirements the name had to fulfil. Suddenly Mito popped into my mind. And with it the image of the motorcycle: the Cagiva Mito. The dream of my youth. The next morning I suggested it as a possible name for the chair. Everyone was just as excited as I was. We then took the development a step further and introduced the "Y". This marked the beginning.

What was the motorcycle like?
A streetbike with 125cc. When we were teenagers it was special because you could ride one as soon as you turned sixteen. That used to be common in Italy. Of course all fifteen-year-olds were waiting impatiently for the day when they finally had the permission to drive. The Cagiva Mito was the symbol for that.

Is the name an indication of the chair's sporty appearance?
To some extend, yes. The renderings were also originally red. The Mito of my dreams was always red. And in much the same way this project with the chair was like a dream to me.
Now, the way things look, the chair may soon end up in a museum like the MoMA Collection.
That's also part of the MYTO myth, and it makes me proud. After all, I contributed to it.

Did you ever actually have a red Cagiva Mito?
Unfortunately not. It always remained a dream. I always had a Honda, but when my daughter Nastiya was born, I sold the motorcycle, but just the motorcycle, not the helmet and the gear, because – you never know.

MYTO a cantilever chair

Photography Viviane Sassen

Viviane Sassen is especially remarkable when it comes to combining a variety of photographic genres, either next to or right on top of each other. Within this wide diversity of approaches and choices of subject matter, her most notable quality is a sublime feeling for form, colour, structure and volume. Although Viviane would never call herself a fashion photographer, much of her work finds its origins in fashion. She clearly leans toward a graphic and hyperstylised form of photography and makes use of a varied palette of possibilities.

Viviane Sassen was born 1972 in Amsterdam.

MYTO the making of

BASF
Designing Materials
and
Applications

05.09.2006

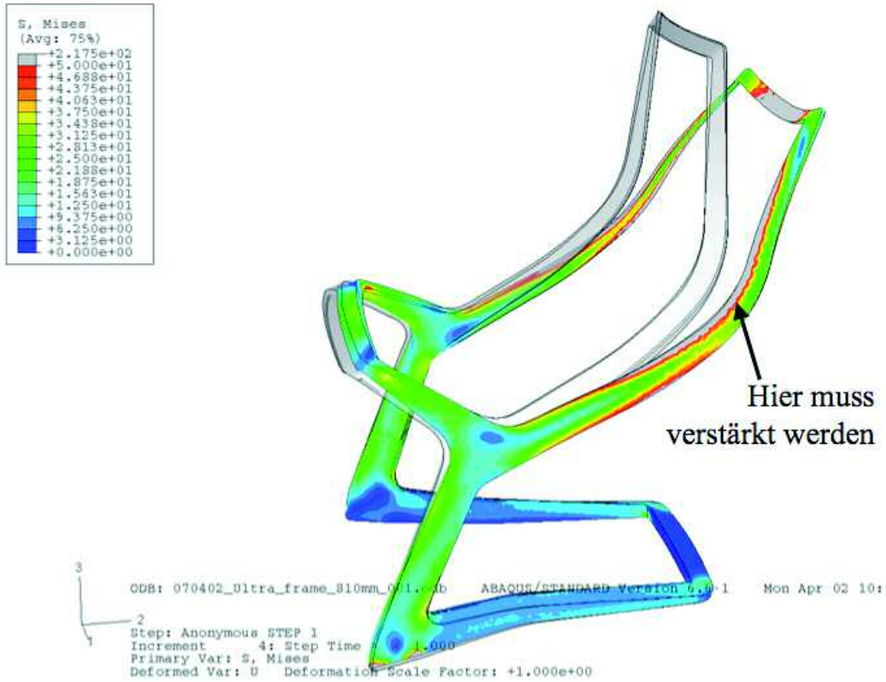
KGID
Munich, Germany

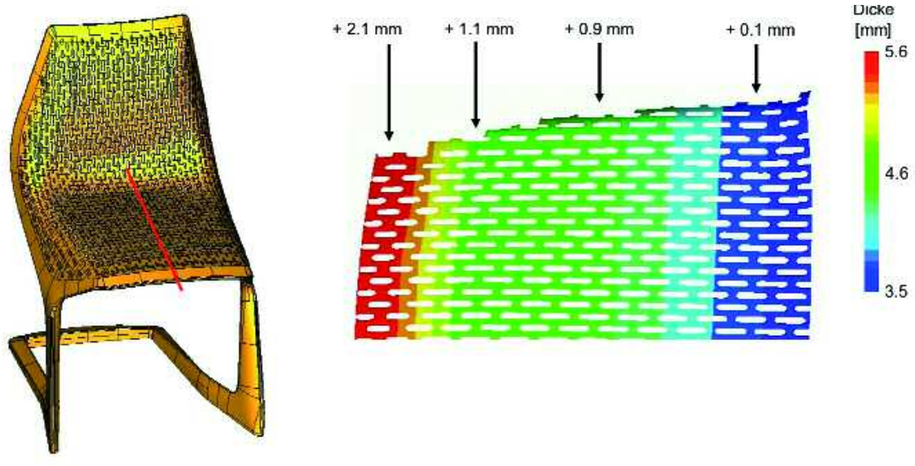
Following a first encounter at the Universal Days in 2006,
BASF commissions Konstantin Grcic to design an application using the BASF material
PBT (polybutylene terephthalate), known as Ultradur® High Speed.
It is mainly used in the automotive industry, and BASF is aiming to promote
its qualities in new markets. Konstantin Grcic proposes straight away to develope a chair
and introduces the Italian furniture company PLANK into the project.

04.09.2007

BASF
Ludwigshafen,
Germany

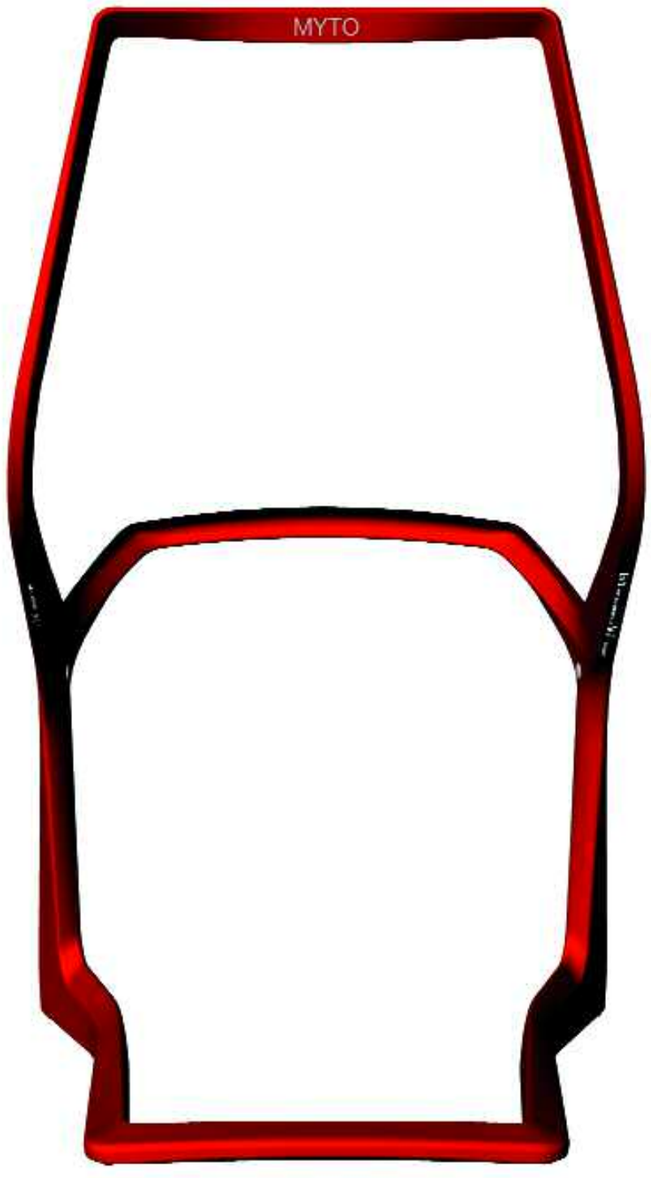
The first
off-tool chairs
are tested at
the BASF
laboratories.





BASF contributes thorough engineering support
to the project development.

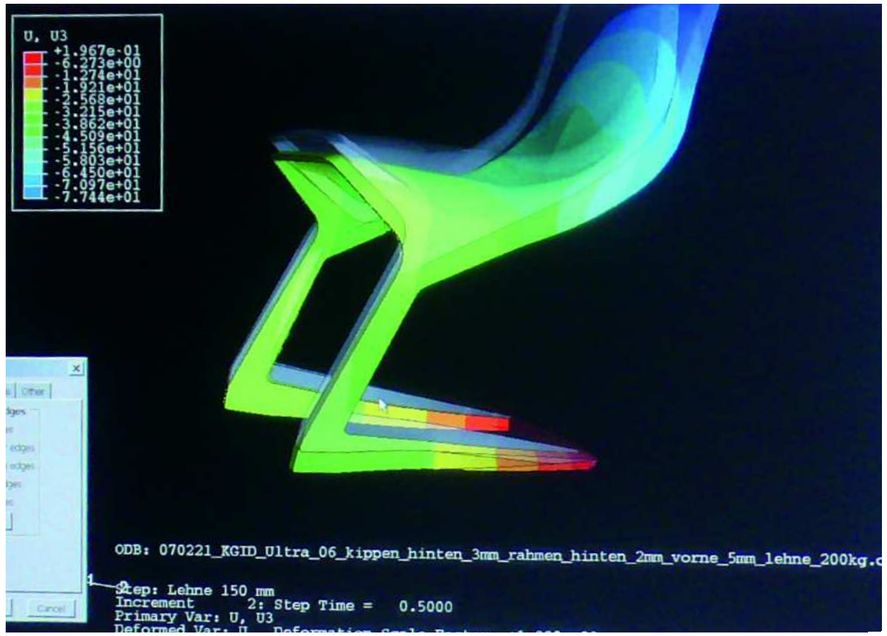
Data gained from structural computer analysis,
mould flow simulations and material testing allow the in-house engineering team to adjust
the material according the static requirements of the cantilever chair.



The construction of MYTO is based on a structural frame.

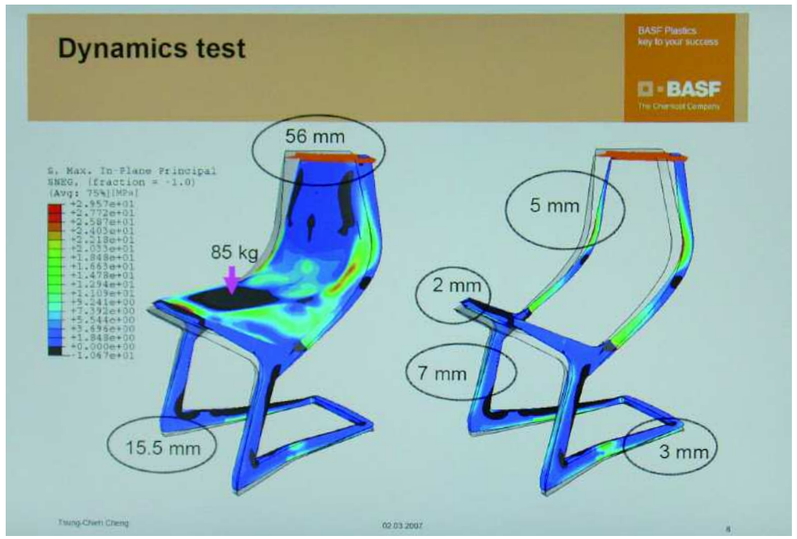
Like a tree the material is thicker around the base where the chair needs
full strength while thinner material branches out to less critical areas.

Injection moulding allows for the gradiant cross-sections.



The fast exchange
of 3-D computer data
between the three
partners is essential
to the MYTO project.

It speeds up the
process by enabling
the simultaneous
development of
engineering and design.



Dynamic and static
stress analyses
give clear indications
of the performance of
the design in each phase.

The stacking
is precisely determined
on the computer.

16.02.2007

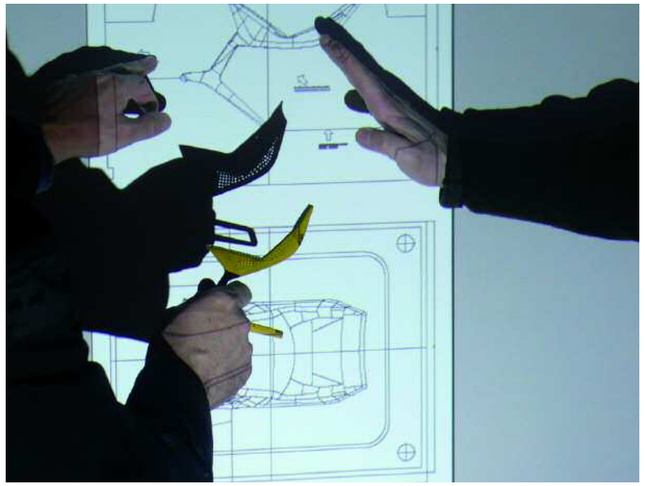
KGID,
Munich, Germany

Printed patterns are patchworked
onto a cardboard model.
(right)

09.02.2007

KGID
Munich, Germany

The production engineer
explains the position of the chair
inside the mould.



13.11.2007

KGID
Munich, Germany

The laser-sinter model
on the right shows
the transparency of the
final perforation.

18.09.2007

BASF
Ludwigshafen, Germany

Kurt Höfli, Director Marketing
Engineering Plastics analysing a production
sample together with Andreas Eipper
and Mark Völkel.

20.02.2007

BASF
Ludwigshafen, Germany

Ulrich Endemann (right), Head
of Application Engineering and Tsung-Chieh
Cheng (left) are responsible for
the computer analysis and mould flow
simulations.

09.02.2007

KGID
Munich, Germany

Thomas Fritzsche (left)
Business Unit Manager of Engineering
Plastics with Konstantin Grcic.

The team's shared passion and enthusiasm
play an essential role in achieving
the ambitious goal.

03.04.2007

mould maker
Italy

Tsung-Chieh Cheng (right) showing
the injection points to Alexander Löhr
(KGID).

06.11.2006

machinery maker
Italy

Anja Bakker (left), initiator of the BASF Universal Days workshop,
presents the concept of collaboration between the three partners
BASF (material & engineering support),
KGID (design)
and PLANK (production & distribution).

This meeting marks the point of departure with a year of challenge ahead.

23.10.2007

K-fair
Düsseldorf, Germany

MYTO is proudly
presented at the BASF
stand at the world's
biggest plastics
trade fair.

Only eleven months
elapse between the first
meeting and the première
of MYTO.

18.09.2007

BASF
Ludwigshafen, Germany

MYTO is subjected to a series of tests at the BASF laboratories.

In this case the chair withstands a heavy load dropping from a height of three metres.

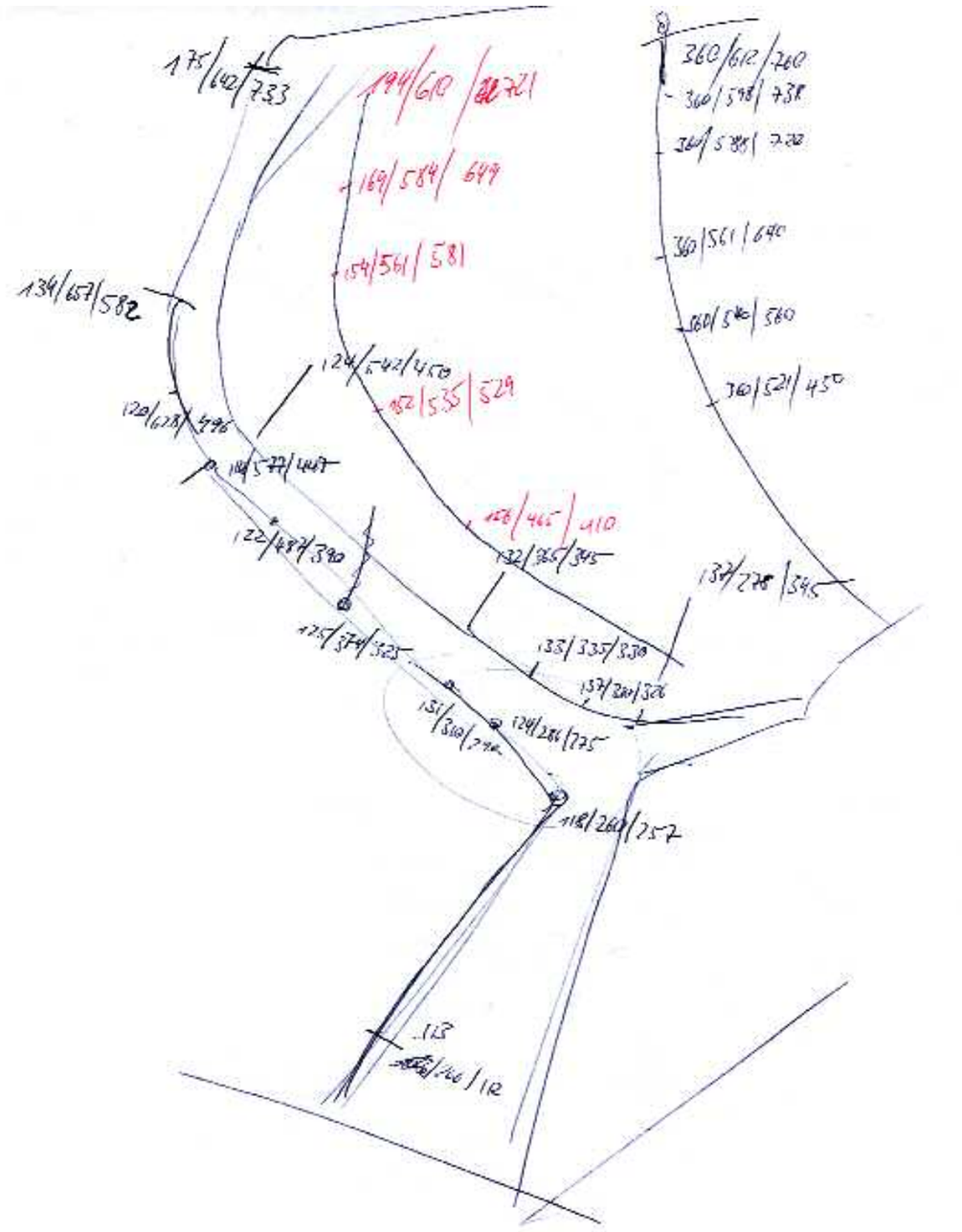
30.08.2007

production site
Italy

The first off-tool chair is loaded with bags of the newly developed grade of Ultradur® High Speed.

MYTO the making of

KGID
Designing Form



14.11.2006

KGID
Munich, Germany

The black tape marks a supporting framework on the mesh.

The interplay between a solid frame and a perforated surface is to become the basis for the design of MYTO.

15.11.2006

KGID
Munich, Germany

06.12.2006

KGID
Munich, Germany

Konstantin Grcic
and his assistant
Alexander Löhr
(top left)
are making first
models out of
perforated aluminium
mesh.

The material is
a key factor in the
design process.

It is easy to
manipulate by hand
and therefore allows
three-dimensional
forms to be sketched.

23.01.2007

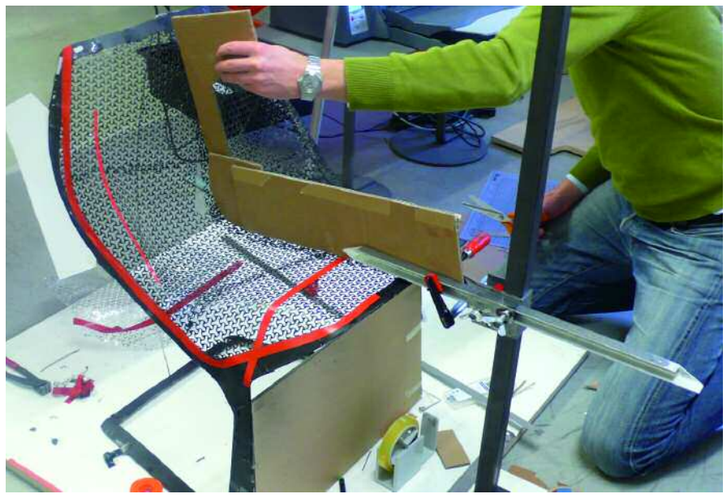
KGID
Munich, Germany

A quick mock-up made of cut up furniture
parts gives a first impression of a plastic
cantilever chair.

15.12.2006

KGID
Munich, Germany

The lightness of the aluminium
mesh influences the characteristics
of the final design.



19.12.2006

KGID
Munich, Germany

Red tape is applied onto the fragile
model in order
to translate its geometry into
3-D computer data.

13.12.2006

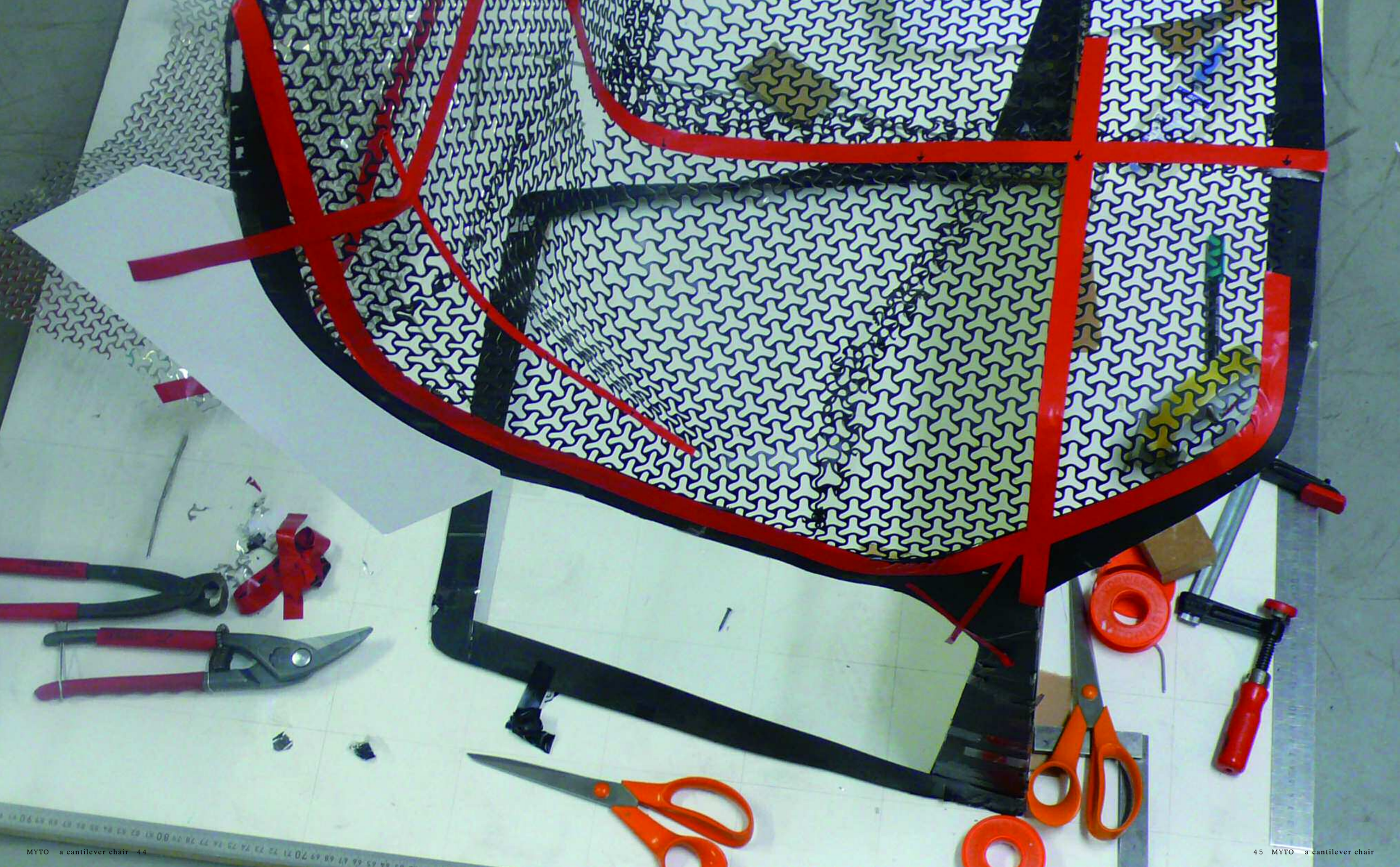
KGID
Munich, Germany

Konstantin Grcic modelling with
wire on an ergonomic rig.

08.12.2006

KGID
Munich, Germany

An early model of a cantilever frame represents
a significant point in the design process.
Later it will give MYTO its most dominant characteristic.



14.03.2007

KGID
Munich, Germany

The initial concepts for
the seat structure range
from asymmetrical lines
(left)
to a wicker like pattern
(right).

25.04.2007

KGID
Munich, Germany

Konstantin Grcic working on the final grid which
is ultimately determined by the flow characteristics
of the material Ultradur® High Speed
and the movement of the tool.

Konstantin Grcic and Alexander Löhr
are playing through various designs
on 1:1 print-outs using adhesive
tapes and markers.

19.01.2007

KGID
Munich, Germany

Various model-making techniques are used during the design process. While the aluminium mesh is best for first sketch mock-ups, polystyrene foam models are strong enough to check the seating comfort.

Rapid protoyping technologies such as laser sintering reproduce the precise 3-D geometry of the computer data.

30.01.2007

KGID
Munich, Germany

Martin Plank and Konstantin Grcic discussing one of the first wire and cardboard models.

11.06.2007

KGID
Munich, Germany

Adjustments are made on a 1:1 laser-sinter model.

MYTO the making of

PLANK
Designing Production

15.06.2007

mould maker, Italy
The model helps to point out problems of moulding constraints.
Konstantin Grcic and Martin Plank in discussion with the engineer,
responsible for the construction of the tool.

14.06.2007

PLANK
Ora, Italy

Michael Plank pointing out subtle corrections made to the frame.

14.06.2007

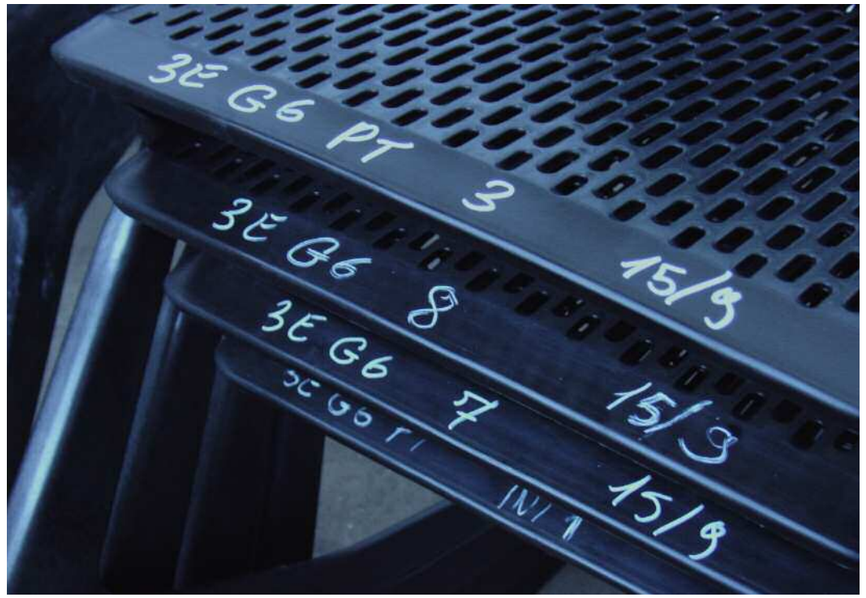
PLANK
Ora, Italy

Peter Gruber sitting on a propped-up laser-sinter model.

19.09.2007

PLANK
Ora, Italy

Handwritten markings by the production engineer specify the different material compositions tested by BASF.



23.10.2007

KGID
Munich, Germany

(from left to right)
Konstantin Grcic, Martin Plank, Biagio Cisotti and Michael Plank discussing ultimate details.

06.09.2007

PLANK
Ora, Italy

Stackability is a key requirement from the beginning.

29.08.2007

production site
Italy

The machine opens to reveal on one of the first MYTO chairs from production.
(left)

29.08.2007

production site
Italy

The mould is lifted into the injection machine to run preliminary trials.
(right)

29.08.2007

production site
Italy

The first batch of MYTO chairs is critically assessed.

19.09.2007

PLANK
Ora, Italy

The first production series
is set up at the PLANK warehouse.
Comfort and stability tests now
determine the final composition
of the Ultradur® High Speed.

After one year of working on models, the
chair has finally become a real product.


PLANK

ABITARE (I)

No. 476, October 2007, pp. 116-121, pp. 277-278

How to give birth to a chair: the story of MYTO by Konstantin Grcic

by Anniina Koivu

In the end it all comes down to three minutes.
Three minutes between the closing and reopening of the security doors of an injection moulding machine. Just three minutes to unite the two mono blocks and press the hot liquid plastic into the mould.
Three minutes for each new MYTO chair to be born.
While a technician is taking out one chair after another to place them into templates for cooling, a group of reassured men is proudly twisting and turning the first prototypes of this new cantilever chair, completely made of plastic.
We are in the hall of the injection machine producers, with the technical experts and BASF, the chemical company responsible for engineering plastics, along with furniture manufacturers Plank and designer Kostantin Grcic, to witness the first results of the design process for a new everyday icon.
In the late summer of 2006 the members of this group agreed on an one-year project for a cantilever chair, based on the practical properties and creative potentiality of the Ultradur® High Speed plastic, normally used in the automobile industry.
"The possibilities are endless in chair design, and so are the difficulties in trying not to repeat oneself. To narrow down the field, we started from the promising characteristics of the material and took up the challenge of not only designing an umpteenth plastic chair but instead a new kind of plastic cantilever chair", recalls Konstantin Grcic, amazed that they actually pulled it off in such a short time.
For Martin Plank, a central figure in the putting together of this group effort: "Time was the major factor. Decisions could be taken on the spot because we trusted each other's ability. And more than once this pushed the design to a new level".
Along with the choice of material, the type of chair and the various tools used for manufacture the concept of one-piece production also had a major influence on the final design of the MYTO. The chair had to be formed as one continuous frame, resulting in a dynamic shape with a unique transition from a thick to a thin cross-section. Thick: where the structure has to be strengthened, like the two most crucial load-bearing parts at the upper and lower joints of the legs. Thin: as with the seat and backrest to create a light and cantilever experience when sitting.

To achieve the final shape, the design process has been computer animations and various full-scale models built in wire, foam and scrap from other furniture.
Each of these models developed a different aspect of the chair, starting with first conceptual sitters, over form and static analysis to the final detailed mock-ups on molding seam-lines.
Special attention was given to the perforation of the seat, which, with its slight upward bulge, extends smoothly into the backrest.
This net-like pattern underwent numerous changes as it developed from free-flowing psychedelic motifs to its final symmetrical structure:
"At one point the experiments on various types of perforations came to an abrupt halt. We realized that the machine could not guarantee the ideal flow of the heated plastic throughout the chair and especially to the thinnest parts of the net, as it tends to cool down and harden before reaching the furthest point of the mould."
In order to overcome these technical limits, Grcic had to reinforce the grid reducing the size of perforation.
Despite the additional weight, the MYTO has retained its slim and light appearance and can still be easily stacked.
Chair design is all about balance, especially in the case of a cantilever chair. Volume in combination with decorative perforation is central to the final shape of the object, but the right balance must be struck between solidity and flexibility in order to create comfort without losing the chair's springy nature. All these questions, are currently undergoing fine tuning.
Once all the ingredients come together properly, MYTO will become the next piece in the series of cantilever icons.

FORM (D)

No. 218, January/February 2008, pp. 62-68

Grcic swings!

by Oliver Herwig

Ever since Verner Panton, no other designer has risked making a cantilever chair out of plastic – until, now, a completely new material has made it possible, namely, polybutylene terephthalate. Konstantin Grcic has formed a swaying chair from the BASF plastic, enriched with nanoparticles, which could go down in design history.

One form, one material, one cast. The MYTO chair is built as a single block. Its stable frame merges into a net-like backrest and seat which merges with the body. No wonder that the eyes first perceive the chair, glide over prominent edges, soft supports, and trace the transitions.
Actually, says Konstantin Grcic, the design came to be from a small misunderstanding, from the false estimation that the material can be both soft and hard at the same time.
Although the chemists at BASF immediately cleared up this mistake, the desire remained to grasp these opposites as productive tension. The backrest, stretched out like a cushion, arches toward the body. The frame forms an elastic backbone. MYTO stays in motion.
Polybutylene terephthalate (PBT) is the name of the material which is used above all in the automobile industry and which BASF markets as Ultradur® High Speed. The chemicals giant on the Rhine has developed a particularly fluid technical plastic with it, to which nanoparticles lend special properties. It combines firmness and high fluidity in processing and gives designers completely new possibilities to choose the cross-sections of their objects freely and to combine thick and thin cross-sections in soft lines.
The quickly fluid material can be used to create free formal transitions in injection molding, and at the same time you save mass.
How did the design come about? In the beginning there was a BASF workshop. Four designers, June 2006 in Ludwigshafen. The chemicals giant wanted something tangible, ideas about how their own technical plastics, the "Ultra-s", can show their strengths vividly. Instead of praising properties like firmness and heat-moldability only in the technical leaflet, products should be convincing.
Afterwards, BASF initially appeared as the only client. The goal was to pave the way for the material's success outside the auto world. Not only as a prototype, but also in mass-produced items. The choice of object and industrial partner was for Grcic to make, which meant: "if, then a chair." And if a chair, then its most ambitious form, the cantilever.
Made of plastic!
After having taken this decision Grcic immediately sensed "liberation, indeed close to lightheadedness," or so he recalls. He had taken on a challenge that all his colleagues had failed to address down through the decades.
In order to counter the mixture of complexity, intensity and time pressures, he included the materials manufacturer, the producer, the toolkmaker and the machine builders on the team. In the form of Italian company Plank, who had already produced his Miura bar stool for him, and BASF, he had two partners who clearly were willing to learn from each other. And together they pressed the pedal to the floor.
Three days before Christmas the first model was complete, and less than two months later Grcic and his assistant Alexander Löhr presented the design to the team, where it was greeted with astonishment and euphoria. The material progresses from cardboard and wire mesh to polystyrene. You could admittedly sit on the milled block, but the model was still supported by a solid core.
This was not yet the cantilever by any means. The later mesh for the backrest was simulated by layers of black insulating cable.
The chair was covered in patterns. Overly ornamental? Overly dramatic? The design remained in flux, was digitalized.
Engineers at BASF showed on-screen where material needed to be strengthened and where even a thinner wall was possible. In May 2007, MYTO progressed from PC to rapid-prototyping model and the sintered chair took on form.
The maker of the final tooling was now also on board.
Swiftness and team spirit moved the design process along, eliminating several barriers at once. It celebrated a new and intense linkage of manufacturer, designer and materials producer, bundling their differing areas of expertise. Much was achieved in parallel, and Grcic speaks of the "fruitful flow of information and experience".
When Günter Grass philosophized about progress, which he felt moved at a snail's pace, he had society and history in mind, not design. Yet even in the self-proclaimed home country of innovation, much moves far too slowly. Sometimes, however, veritable explosions are to be witnessed. Function follows innovation owing to the nature of the material.
"I hope that other companies are encouraged to opt for similar partnerships to handle more complex projects," suggests Grcic.
He has gained a unique experience with plastic:
While he previously responded to problems regarding the materials by altering the structures, now it was the material itself that got altered. Suddenly there was a chemist who expanded the material's properties by adding something.
"Now these are scientists," Grcic

says, “who can turn wishes into a formula.” A material that ideally goes through thick and thin.

Does he now want to do other things with polybutylene terephthalate? “My mind is still in the last project,” he confesses, “my first contact with the material, meaning I am probably inwardly not ready to repeat the risk and adventure. Ultradur® and cantilever were the perfect combination.” Now that’s the sound of design when you get the chemistry right.

THE INTERNATIONAL HERALD TRIBUNE (USA)

10 December 2007, p. 10

A cantilever chair wins a Physical battle

by Alice Rawsthorn

LONDON - As every designer with a smidgeon of conscience knows, in an environmental crisis when we’re awash with more stuff than we need or want, you shouldn’t even consider creating another new object unless you’re sure that it’s necessary. And one object that seems doomed to fail that test is the chair.

Why? Because there are way too many of them already. Think of the millions of cheap plastic chairs swamping shopping malls, and landfill sites. Or of the expensive ones being flogged for thousands of dollars at auction. Ever since Philippe Starck swamped the 1980s design media by turning the chair into a wobbly post-modernist joke, young designers and manufacturers have tried to make their names by dreaming up yet more (hopefully) photogenic chairs. Yet every so often a new chair comes along that confounds the cynics by proving its worth. The latest contender is the MYTO, a plastic chair, which is strong, comfortable, light, stackable, compact and comes in a coolly angular shape that is made from a single piece of plastic using (eco-responsibly, of course) the minimum material possible. In short, it’s just about everything a new chair should be.

Every designer longs to produce a chair like it, but to do so they would face a grueling battle against the laws of physics. And they would probably lose, because the odds of striking a balance between strength and stability, with lightness and stackability, would be weighted so heavily against them.

The MYTO’s designer, Konstantin Grcic, was given the chance to change the odds when the German chemical company BASF invited him to create a new product from Ultradur® High Speed, an advanced plastic usually used by the automotive industry. Grcic, a softly spoken German who is one of Europe’s most influential product designers, decided at once to make a chair. “They’ve written design history,” he said. Grcic has designed many chairs over the years, but had never dared to attempt the most challenging type of all: a cantilever chair with no back legs that’s supported by its own structure.

Cantilever chairs are shrouded by modernist mystique, as so few have been made, and the best known examples are among the most famous designs of the 20th century, like Marcel Breuer’s 1920s tubular steel chairs, Verner Panton’s sexy 1960s plastic chair. “It’s a no-go area, because it is the icon of modern furniture design,” said Grcic.

Iconography apart, there are sensible technical reasons to avoid those chairs, not least as it is so difficult to make cantilever chairs stable enough to support themselves, especially if you want them to be light and stackable too. But Grcic was convinced that BASF’s plastic would enable him to crack the challenge. “Ultradur® is a master material, and BASF’s chemists can change the formula to make it very strong or very flexible,” he explained. “You need both properties in a cantilever chair, Ultradur® can be made extremely robust, but also very fluid. When it’s shot into the mold, it’s like the difference between pouring honey and water. Water flows much faster and can go into the thinnest parts of the mold where honey would clog up.” Grcic began the project, as he does all of his commissions, by imagining how the finished object will be used, and visualizing its shape. He then made a model from paper. His models look clumsy - like something from a kids’ creativity class - but Grcic finds that working with his hands is the most effective way of thinking through the design. It also ensures that the finished object will look both instinctive and distinctive because it was literally shaped by his hands.

Once the model was finished, its dimensions were uploaded into a computer at his Munich studio, and the final structure finessed by design software, which predicted how much material is needed to achieve the strength and flexibility required for each part of the object. For the MYTO, Grcic conducted simulation tests using BASF’s software too.

There is often a jolie laide quality to Grcic’s products, which look oddly gawky at first sight, but then grow on you. The MYTO is no exception. Grcic wanted it to seem light and supple, with a perforated seat and back. “The perforations look quite like an animal skin, and the chair has a reptilian quality with a precise outline and roundish, but tense surfaces,” he said. “Sometimes animals assume that position when they’re ready to pounce.”

To manufacture the chair, Grcic chose Plank, a furniture company in the Dolomites, with whom he had worked before, and a veteran Italian mould maker. BASF’s chemists came to all of the tests in the factory. “There were two very different schools of thought at work,” recalled Grcic. “German academic thinking, versus hands-on Italian engineering, very professional, but ready to improvise.”

Both skill sets were needed because Grcic had been overly ambitious in his design. To create a stable cantilever structure, the plastic had to be both very strong and very flexible, but it had been formulated to be one or the other. The BASF team made up 15 different versions before finding the mix that worked best in tests at the mould-making factory.

“You use all this software but, in the end, when you get a chair out of a mold and sit on it, it seems completely different,” said Grcic. “With a cantilever chair it’s even more difficult to predict how it will perform, because the tests are designed for four-legged chairs that behave completely differently.”

Grcic was lucky. When a chair flunks a test, the designer usually has to change the shape, but for the MYTO, the chemists tinkered with the chemical composition of the plastic to find the right formula. A prototype of the MYTO was unveiled at a plastic fair in Düsseldorf in October. It is now being finessed, and the first production models are to be launched at the Milan Furniture Fair in April alongside all of the hundreds of other new chairs.

(Alice Rawsthorn, architecture and design columnist for “The International Herald Tribune”, is the former director of the Design Museum in London.)

MONITOR (RU)

No. 45, January 2008, pp. 3–6

by Anna Yudina

Inviting Konstantin Grcic to create an object that could fully reveal the potential of the Ultradur® High Speed plastic, BASF had a big idea of proposing their product to the international design market.
The material is successfully used in the automotive industry, yet BASF are confident that with High Speed one can go further than headlights or engine parts. The product category was not defined; the only requirement was to design an object allowing people to really experience the material.
Grcic suggested a chair — an ultimate structural challenge and one of the most visible consumer products. Compared to other plastics known to the furniture industry, High Speed has an exceptional mechanical strength. As a plastic used in the car industry, it is resistant to the most extreme climates. Formed by injection moulding, the material boasts a high flowability. “Imagine a difference between injecting honey and water,” explains Grcic. “The honey is slow and won’t fill the smallest gaps, while the water will flow very fast into all areas. High Speed is analog to water, so you can do something very fine and small-scale, and at the same time something quite big. The most commonly used plastic in the furniture industry is polypropylene, a beautiful material with its own qualities and predictable limitations.
I was interested in working with a material that had totally different capabilities, in building a structure that we couldn’t make with other plastics.” Opting for a cantilever chair, Grcic had in mind its iconic status in modern design: “Think of those by Breuer and Mart Stam, made possible when steel has become strong enough. Later on there was Rietveld’s wooden Zigzag, then the Panton chair in 1968, originally made of a composite plastic with a core. Ever since the Panton chair there have been no attempts to make a cantilever chair in plastic.”

First discussions took place in September ’06; the chair had to be exhibited in one year at the K 2007 plastics fair in Duesseldorf. Since BASF wanted a real commercial product, Grcic called for Italian manufacturer Plank (for whom he had earlier designed the Miura stool) and a mould maker who, in his turn, brought in a company to produce the machine on which the tool should be installed. The tight schedule demanded a truly efficient use of time. All players were involved in the process right from the start; experts in engineering and chemistry were there

since the earliest stage, available to designers for an immediate feasibility check-up. November to February were about developing the design, the structure and the machinery. Then, a go-ahead was given to make the moulding tool: a 200 000-Euro investment, special tempered steel, computer controlled milling, and a 3-month production period. The first chair emerged in late August, proving that the system basically worked. With the new plastic allowing for extreme thick-to-thin transitions, the whole chair is injected in one go. Its delicate mesh-like seat and back presented the biggest challenge, as they had to withstand a load of 200kg and impacts from a kick or a dropped object.
"You make a lot of preliminary tests, but there is always a risk," says Grcic. "The simulation software is sophisticated but this is theory and the practice is different. Some of the first chairs broke. We had to analyze the reasons, and by then it was only BASF and their chemistry that could solve the problem. You can't change the mould any more: the process is too complicated, slow and costly. But the chemistry allows you to reinforce the plastic, to use additives changing its properties – it's really like cooking."
After the Duesseldorf preview at the BASF stand, Plank will show the MYTO chair in Cologne (January '08), and in Milan (April '08), where the project history will be illustrated by an installation at the Triennale palace.
"We want to encourage others to work this way. The furniture industry is in a kind of dead end at the moment. You deal with same-sized companies, the same frustrations and limited resources, while building a team of experts from the beginning has created a whole new situation where everyone had his own interest.
The necessary big investment was spread between several participants; they shared their expertise so that you could steer the project in a most efficient way. There was something in the project that I often miss in this industry where everything is just difficult and not possible to do. Here, we made it difficult ourselves, but it was a challenge that motivated people, and everyone wanted to make it possible."

FORM (SE)

No. 218, January/February 2008, pp. 80-81

Why a chair?

by Susanne Helgeson

It is chairs that write history. Three participants in a record-fast process with a unique result. Soon the Milan fair will be playing a fanfare for the MYTO chair, a joint venture by Konstantin Grcic, Plank and BASF.

"MYTO is my twenty-first chair and probably the most unique," says Konstantin Grcic. "The combination of process, design, and seating experience was incredibly inspiring."
The chair, which will doubtless be a topic of conversation at this spring's Milan fair, is undeniably unique in many ways. First, it is unusual that a materials producer, in this case the world-leading chemical group BASF, initiates a collaborative project. Second, the Ultradur® High Speed engineering plastic is new in a furniture context. The plastic is as fluid as water, which means it can get into the narrowest corners of the mould, and it also retains its exact shape after the moulding process. The plastic is extremely durable, as Grcic demonstrates in a film that shows a 50-kilo weight being dropped from a three-metre height onto MYTO.
The chair rebounds high up, which in slow motion creates a very striking image of its elasticity. Ultradur® is also heat and UV resistant, which, combined with the mesh pattern of its seat and back, increases the chair's possible areas of use.
The material, which has originally been invented in the late sixties, was optimized in several development cycles to perform the specific requirements of the MYTO chair.
Another unique feature is that it only took a year from the first meeting to the presentation of the final product, which was shown to the world's plastic and rubber enthusiasts at the biggest trade fair for that audience – K 2007 in Düsseldorf. After the fair the 200 exhibited chairs were destroyed so that no one could see them again before six months later in Milan. They will be shown by Plank, of course, but also in a large exhibition at La Triennale, where the whole process will be illustrated.
"During the press conference at K 2007 in October not one question was directed at me – everyone only wanted to talk about the material's properties and possibilities, so they spoke with the engineers and technicians from BASF," Grcic says. "And of course that was what BASF wanted – to have a product act as a tool to convey information about the material itself."
He remembers when he first said that he wanted to create a chair, as opposed to, let's say, a bottle opener.
The BASF technicians looked a little nervous even then, and when it became clear that he wanted to create a cantilever chair, their faces went a shade paler.
"I must say that BASF was courageous to take up the challenge," Grcic says. "While my colleagues and I worked on the design, they developed the material further so that it could satisfy the demands of the chair as optimally as possible.
At the same time Plank was working on the production requirements.
Thanks to these parallel efforts in a continual dialogue between everyone involved, I don't think I've ever been involved in a more inspiring and efficient process.
"This is my first cantilever chair. Marcel Breuer's tubular steel version is known as a pleasantly rocking, timeless model.
I wanted to see if that feeling could be transferred to plastic. And what would the Panton chair look like if it had been created today?" wonders the designer, who is known for taking his products that one step further, and pushing the prevailing limits by posing new questions.
"The material and the manufacturing method gave me the optimal conditions for finding out the answer," he continues. "One of the challenges was to create a kind of anatomical feel to the chair as a whole. Like in the frame, where I thought of how the body's muscles are built up depending on exactly where the strength is most needed and the load is greatest."
The chair's flexibility lies not only in its frame; both the seat and back should also feel as springy as cushions. The solution lies in a combination of the geometry of the seat and back – a perforated mesh pattern in which the material is far thinner than in the frame. Thanks to this, MYTO also looks much lighter than its 5.6 kilos. When asked why he chose to design a chair, Grcic answered that a chair – especially a cantilever one – would demand the utmost both from the material and from himself as a designer.
"As well, I'm fascinated by how much chairs tell us about their own eras. Think of the Vitra Design Museum's classic poster of chairs that are design icons from different eras. By looking at them we understand what the cars, houses, and fashions looked like, and also what techniques and materials were available. Quite simply, they reveal the spirit of the age."
It remains to be seen whether MYTO will feature on an updated version of Vitra's poster. The chances are good.

Examples from international press reactions to MYTO prior to production begin.

MYTO a cantilever chair

Initiators

Kurt Höfli
BASF

Director Marketing
Engineering Plastics

Thomas Fritzsche
BASF

Business
Manager Ultradur®

Anja Bakker
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Application
Development
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Konstantin Grcic
KGID

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Michael Plank
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General Manager

Biagio Cisotti
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Creative
Consultant

Peter Gruber
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Product
Development

BASF

BASF is the world's leading chemical company.
Its portfolio ranges from chemicals, plastics, performance products, agriculture products and fine chemicals to crude oil and natural gas. As a reliable partner to nearly all industries BASF's sustainable development of high value products and intelligent system solutions help its customers to be more successful.
For BASF sustainable development means combining long term business growth with environmental protection and social responsibility, thus contributing to shape a successful future.

KGID

Konstantin Grcic Industrial Design was established in Munich, Germany in 1991. The studio is specialised in various fields of design, ranging from furniture design to comissioned work like architectural projects. Konstantin Grcic defines function in human terms, combining formal strictness with considerable mental acuity and humour. Each of his products is characterised by his careful research into the history of design and architecture and his passion for technology and materials. Known for pared-down pieces, Grcic is often called a minimalist but the designer himself prefers to speak of simplicity. Many of the products have received international design awards and are part of permanent design collections such as Museum of Modern Art/New York, Centre Georges Pompidou/ Paris, Die Neue Sammlung/Munich.
In June 2005 PHAIDON Press, London, published the first comprehensive monography about the work of Konstantin Grcic Industrial Design. The 240 page volume was edited by Florian Böhm.

PLANK

PLANK's history dates back to 1893. For generations, the name has stood for the highest quality. The basic objective has always been the investigation and intensive research for technological possibilities connected to the principles of design.
PLANK works together with renowned designers. Together with Konstantin Grcic PLANK presented the MIURA bar stool (2005), which was recently added to the collection of the Museum of Modern Art in New York.
PLANK products are part of the most important museum collections around the world (MoMA, New York, USA; Staatliches Museum für angewandte Kunst/Design in der Pinakothek der Moderne, Munich, Germany; Museé du Quebéc, Québec City, Canada; Triennale Design Museum, Milan, Italy).

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MYTO a cantilever chair

MYTO

a cantilever chair

the making of MYTO
a project by

BASF
KGID
PLANK

Ludwigshafen / Munich / Ora
Milan April 2008

height	820 mm
width	510 mm
length	550 mm
weight	5.6 kg
material	Ultradur® High Speed by BASF

BASF
The Chemical Company

Konstantin Grcic Industrial Design

PLANK®