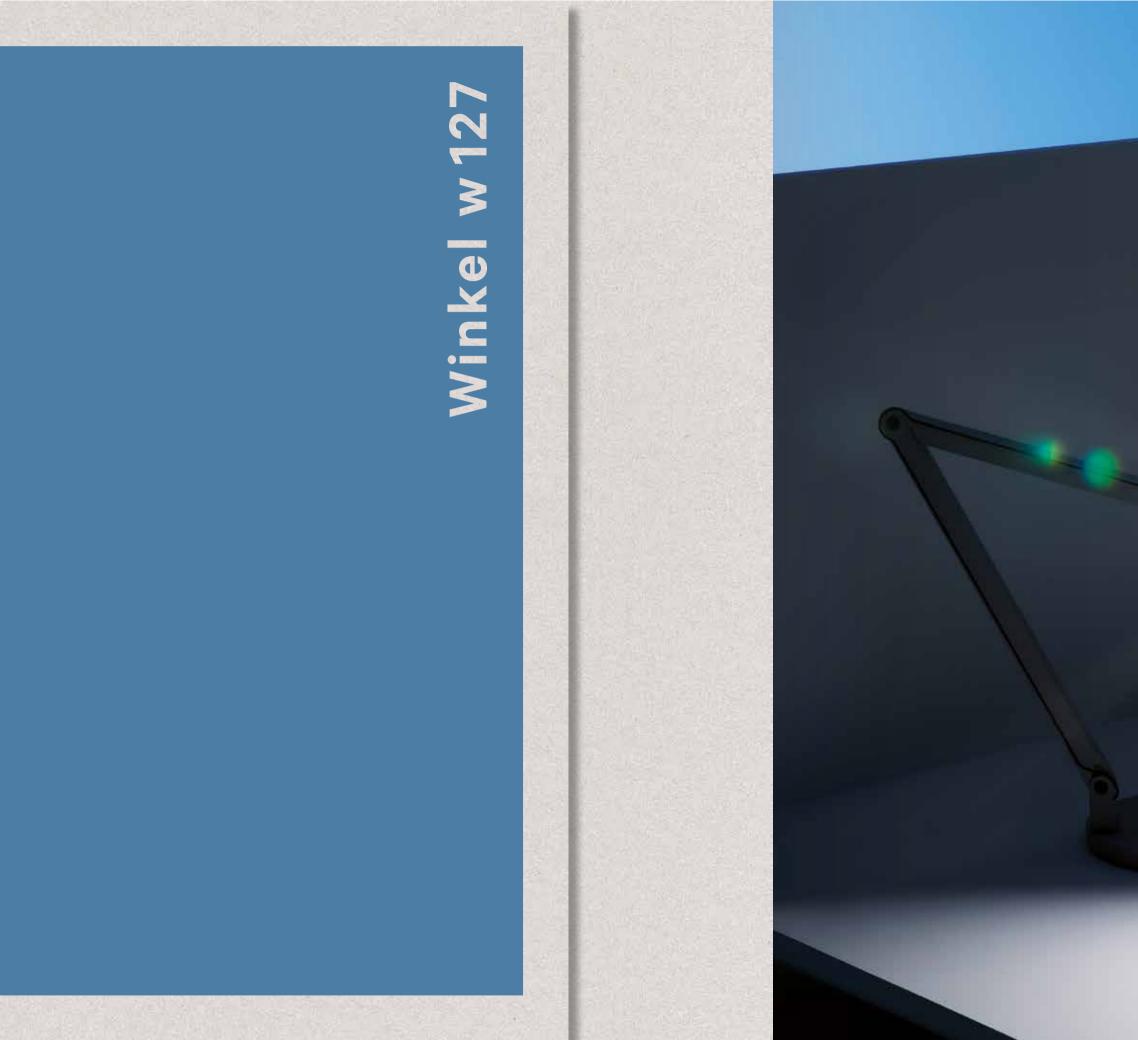


Winkel w 127

Wästberg in collaboration with Dirk Winkel & BASF designfabrik





The following pages are dedicated to the progressive collaboration between the Swedish lighting company Wästberg, the Berlin designer Dirk Winkel and the Germany-based chemical company BASF. Working with features such as solid and by a large extent biologically sourced plastic, highly efficient LEDs and micro gas springs, we have spent the past three years developing what we consider to be the most refined task light ever seen. Actually, we might not have had to take the trouble of putting these pages together: Once you come within close range of the lamp, you will see and feel what it is that makes it truly special.

> I am sincerely proud! Magnus Wästberg

INTRODUCTION

4 **-** 5

WÄSTBERG

# Introduction

























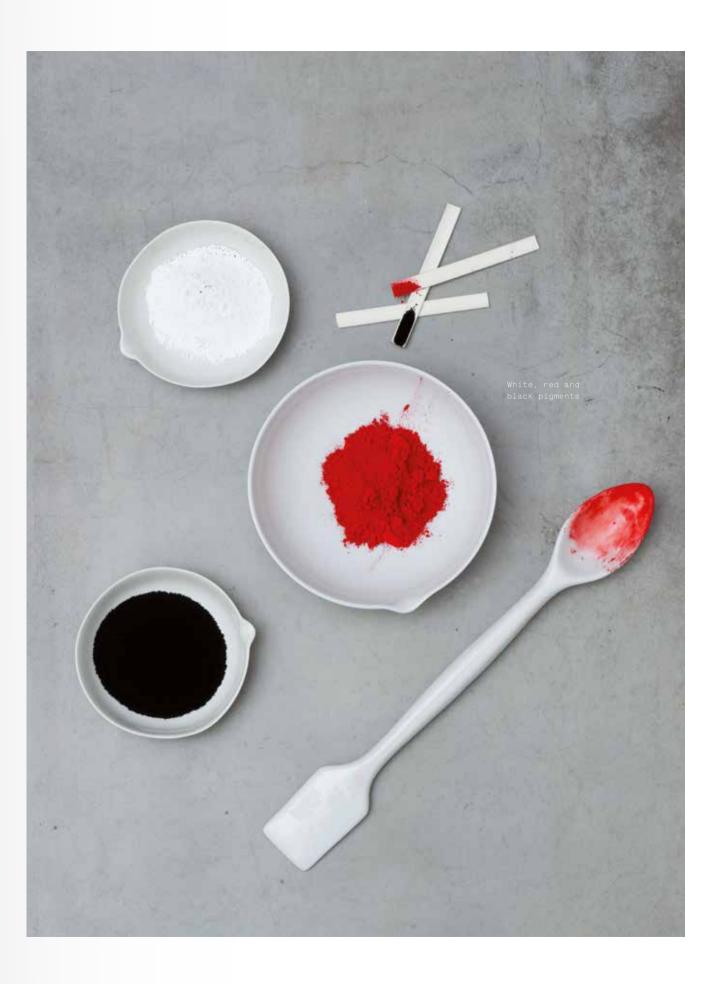


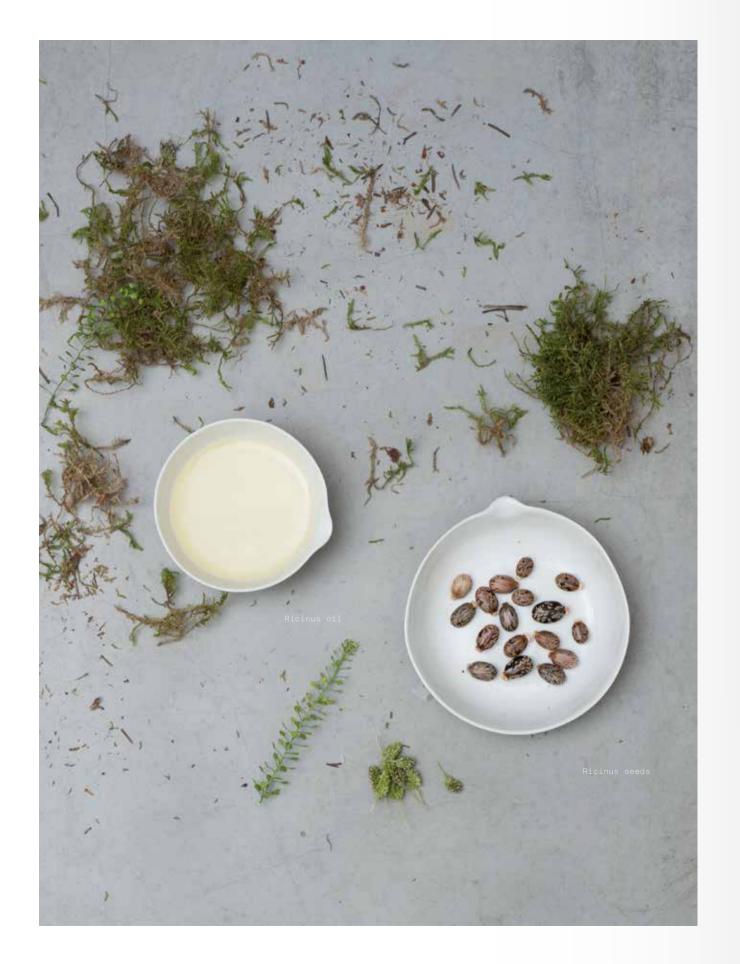
Exploring polymers: How the lamp was made

HE MANING OF WINNEL W127

BY PETRA SCHMID

26 — 27





No second skin, the true, **bold material** 

- 29

# in its pure form.

- no paint coat:

Designers don't need to have polymers in their blood to work with plastic. Though a good understanding of the material certainly doesn't hurt - it is a very complex substance. Plastics processing is challenging due to the expensive tool and mould making and the lengthy selection of materials, among other things. Yet the work on the plastic desk lamp Winkel w 127 must have come naturally to the young Berlin designer Dirk Winkel. As the son of a plastics engineer, he was playing with granules - the grainy raw material used in making plastics - from a very young age. Thanks to his father he learned a lot about the properties of the various types of plastics. So it's no wonder that his minimalistic and elegant desk lamp, recently brought onto the market by Wästberg, a southern Swedish company, is made of plastic. Winkel deeply appreciates the material's qualities: "It was clear that one of the greatest things I was missing in typical designs made of plastic was a significant impression of substance, of materiality. Therefore the next step could only be a design that celebrated the actual material as it is: straightforward, solid and honest, with a concept of hiding nothing, while showing its innermost values to the outside. No second skin, no paint coat: the true, bold material in its pure form."

The initial decision to collaborate with the prestigious Royal College of Art in London was taken in 2009. At the invitation of the BASF designfabrik®, Dirk Winkel and his fellow students went to Ludwigshafen to get to know a new grade of plastics. BASF offers a special service to designers who reach their limits when it comes to plastics engineering. A group of chemists and engineers is there to help select materials; specialists calculate the flow behaviour of plastics and the resilience of the final piece. Once a year, the company invites young designers from universities to a workshop. "We want to introduce them to our materials and inspire them to come up with new ideas," explains Eva Höfli, designer at the BASF designfabrik.

After BASF and the Royal College gave a joint presentation on the workshop results at the Milan Furniture Fair in 2010, and following the coverage of the event, the lighting company Wästberg took interest in the young man from Germany. At the time, the Swedish company had just celebrated its second anniversary; since then, it has worked with prominent designers like Ilse Crawford, David Chipperfield, Jean-Marie Massaud and Inga Sempé, "We were discussing to develop a lamp for the office area which could be manufactured in large quantities at a reasonable price," explains Magnus Wästberg retrospectively. Even though the company is still young, Hasse, the father of Magnus Wästberg, is an old hand in the business. He accrued years of experience in the lighting industry and saw the project's potential immediately. "It was a revelation to us", he remembers. "Here was this concept that embodied everything that we had spent a lot of time thinking about - moreover using new mechanical solutions, like the gas springs, in an actually meaningful way and not only as a nice feature! I also liked that it is made of plastic - that's what we had been aiming at."

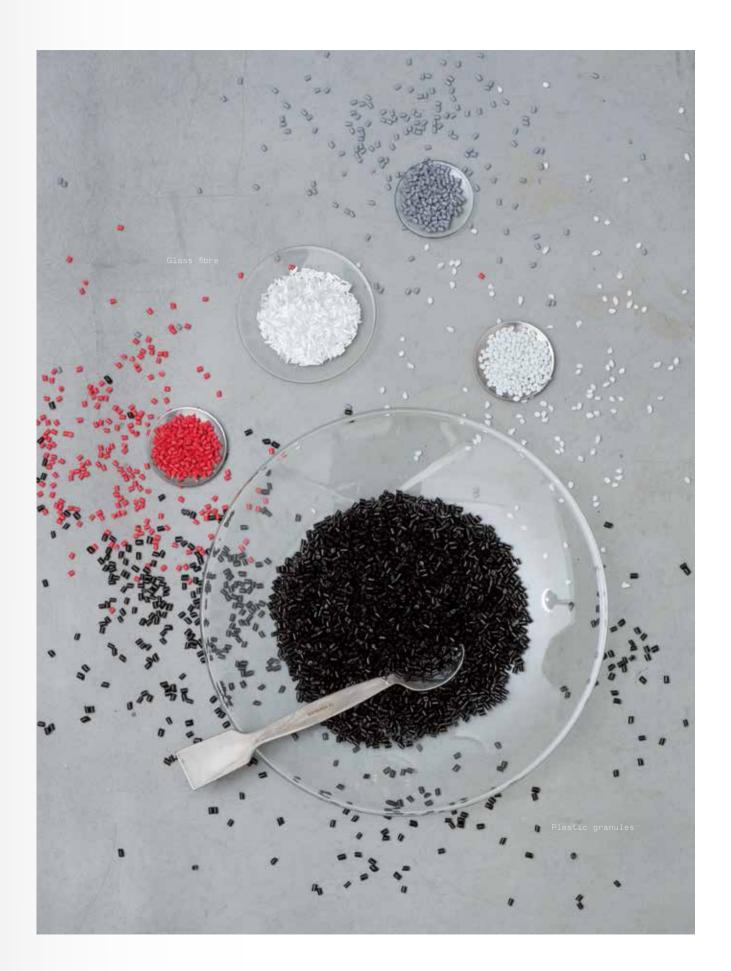
ΒY

1

0

G OF WINKEL W

After a long period of testing different plastic materials, the Wästbergs and Dirk Winkel decided upon using a largely bio-based polyamide. The lamp is now made of Ultramid® Balance, which consists of up to 60 per cent renewable raw materials. "One of the ingredients is sebacic acid, which comes from castor oil. Furthermore, this polyamide has outstanding characteristics. It has a very high heat resistance, and it allows beautiful, smooth surfaces," explains Matthias Scheibitz of Product Development at BASF. Dirk Winkel is also impressed by the surface and its feel. Amazed, even. Customers and friends would stroke their hands gently across the lamp and ask: "What sort of material did you use for this lamp?"



# Understanding Winkel w127

# Petra Schmidt interviews

### Magnus Wästberg

(Founder and Management Director of Wästberg)

**Dirk Winkel** 

(Designer of Winkel w127)



(Designer at BASF designfabrik®)

Wästberg in the lighting industry as a player to be reckoned with. How did you get into the industry? Magnus Wästberg: I literally grew up with the business of producing and developing lighting systems with my father being a lighting producer. Still, I decided not to work in the familv business at first up until I gradually came to feel that, coming from an entrepreneurial family, I wanted to develop my own company. I had realized that the lighting market is very conservative but also very polarized. Gener-NTERVIEW ally speaking, while Scandinavian companies focus on the technical aspects, having an enhigh as the other. 33 1 2 new solutions. 8 KEL young? NG DI DE

gineer-driven product development process, which gives aesthetic considerations rather little importance, companies from Southern Europe, for example, frequently prioritise the aesthetical qualities and the finish above the mechanical and technical lighting qualities. I wanted to take the technical heritage of my father's company and then add my own interest about the aesthetical and emotional qualities of a product - valueing the one as

Petra Schmidt: Magnus, you launched your

company in 2008 and guickly established

Petra Schmidt: How do you succeed in assigning equal importance to both, technical and aesthetical issues?

Magnus Wästberg: The product usually starts with an idea from within the company and then we work right from the beginning with a designer that we think is suited for this particular project. Once we have a concept that we consider to be sufficiently strong and meaningful, we bring in the engineers and try to challenge them to come up with

Petra Schmidt: How come you chose to College of Art? work with Dirk even though he is still fairly

Magnus Wästberg: It is true that we have been working with more established and quite famous designers but that is not because they are famous, it is because they are famous for a reason! Our main starting point is always the product. We had been talking about making a lamp that was as good as possible from a technical and a lighting point of view without compromising on the aesthetics, while aiming at a slightly lower price segment than we normally do. This directed us to work with plastics. At first I was sceptical because of the negative connotations of plastics, namely

its sometimes poor tactile record. But then we stumbled upon Dirk's RCA and BASF project in Milan. All of a sudden there was this concept of a lamp that fitted right into what we were having in mind. So we contacted Dirk who had visited us at our stand in Milan and left us his card. What followed was an extensive development process between Dirk, BASF and us, where we tested about four different plastic grades. We had a long way to go!

### Petra Schmidt: For you, Dirk, this project had already started earlier when you were still a design student at the Royal College of Art in London, right?

Dirk Winkel: Yes, and you might even want to look further back for the beginnings. Funnily enough, my father is a professor for plastics engineering so I grew up with plastics in my childhood just as Magnus did with lighting. I actually remember playing with plastic granules when I was six years old and I remember my father bringing samples from plastics fairs and teaching me actually the names of plastics, the advantages and disadvantages of different kinds. This always directed my focus onto this group of materials. But of course my father as an engineer looked at everything in a rational way and how it is usually done in companies. I thought this way to deal with plastics didn't seize the potential of the material. Thus I got the idea of a monolithic shape that develops a true tactile quality in the way it looks and feels and even in the way it ages - just think of cameras and camera housings, how they age very beautifully when they get softer edges after years of use.

### Petra Schmidt: So what happened when you first went to the BASF designfabrik® together with your fellow students from the Royal

Dirk Winkel: The project started in 2009 with BASF presenting us with a new material that was interesting in that it can be used in guite substantial cross-sections. This made me think whether it could be the right material to realise my concept of a monolithic, boldly shaped task lamp

### Petra Schmidt: What is it about working in design a lamp?

Dirk Winkel: Sure it is. When you design with plastics you usually try to use as little material as possible, using ribs and very thin walls. The disadvantage is that you end up with very light

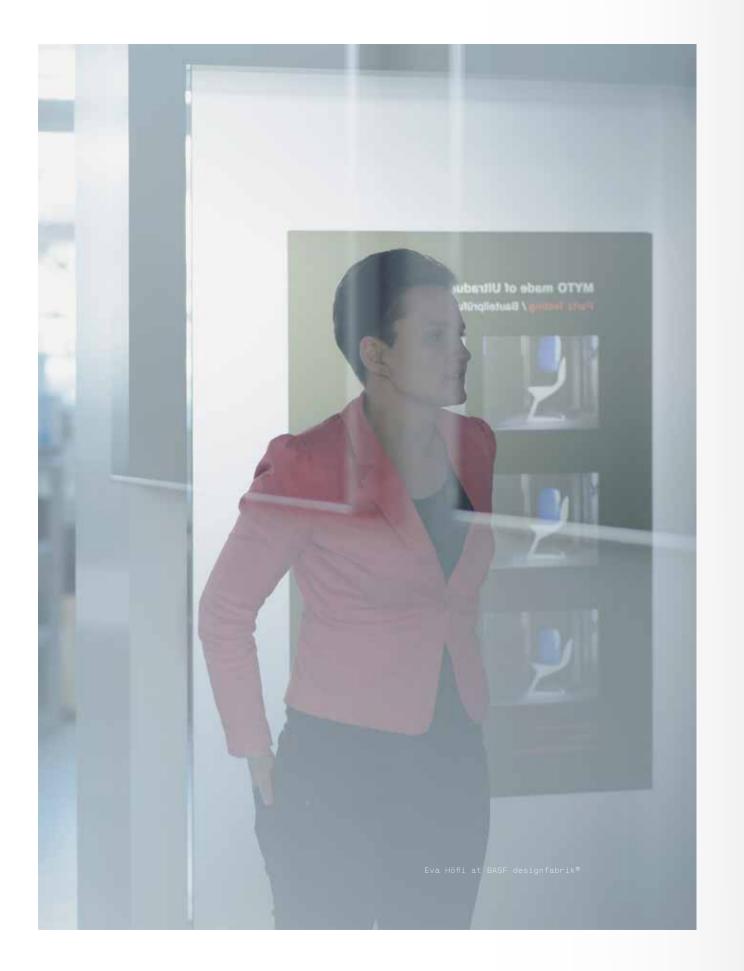
parts that don't have any mass any more. They feel hollow to the touch and it just doesn't have the same perception of quality any more than an object that is almost solid. With the lamp I deliberately chose to work differently. It is actually a statement of how things can look if the perception of the material changes. It is supposed to be a product that is appreciated and kept for a long time. I think this lamp cannot be thrown away easily.

Magnus Wästberg: Indeed everything else, the functionality, the mechanical solutions and so on, are depending upon working with the material in the way that Dirk does. It's a very holistic design considering the properties of the material, the highly functional and energy efficient light source, the mechanical construction and how it is all dependent on each other and functioning in symbiosis in a larger context - all without compromising the monolithic qualities of the material.

Eva Höfli. For us it was also interesting because our customers who are mostly in the automotive industry, usually want to have it lightweight and use the least material possible. Here it was the other way around. That is also why the Winkel w127 looks so valuable, because it's heavy. And if you look at it from a distance it's not quite obvious that it's made out of plastic, it could certainly be of a different kind of material. Dirk Winkel: Yes, one of the interesting properties of the material is that you can't really decode from the start what it is. But after touching it and moving the lamp around, people usually seem to recognise the quality in there.

### Petra Schmidt: You're talking about the notion of 'truth to materials'. Is it this that you wanted to achieve?

Dirk Winkel: Yes. it is. Truth to materials has actually two meanings, I think. The first refers to what Eva said, that the car industry tries to use as little material as possible and make light products, which are engineered by using ribs and other techniques common in plastic products. Yet, what engineers often don't look at is how things feel when you use and touch them. This is a function as well. So it is true to the material to handle plastic as we did. The other aspect of being true to the material is not to emulate or fake another material like it's a more monolithic way - is this a new way to done very often with plastics imitating wood and other surfaces. In fact, we were doing the opposite by showing exactly on the outside what is inside. If you cut through the lamp it will be the same inside as outside. Nothing has been painted nor hidden.



207

INTERVIEW

34 — 35

UNDERSTANDING WINKEL W127



### Petra Schmidt: This is even true as far as mechanical features like the cable and the gas springs are concerned.

Dirk Winkel: Yes, we didn't hide these features, sticking to the concept of showing on the outside what's inside. Indeed, every dimension in the lamp couldn't be different. It is exactly as it is because of dependencies inside the lamp. It starts with the head. You need the head to be a certain size because of the heat sink that has to be a certain size to get a certain light output. Because of the size of that heat sink, you get a certain weight in the head, and then you need a certain power in the gas spring that is supporting the lamp arm, and the gas spring needs a certain space around it, and that again defines the size of the arms and so on. So you can understand it's all a huge network of dependencies.

### Petra Schmidt: What were the challenges in producing the lamp Winkel w127?

Eva Höfli: It's precisely that the design is so bold and goes beyond conventional applications. Our specialists had to break new ground in calculating the filling behaviour. They soon encountered technical issues such as sink marks and warpage, which they hadn't expected at the beginning.

Dirk Winkel: Yes. it is an unconventional way of working with plastic. And the material in itself is a special plastic too. This combination requires a lot of expertise.

Eva Höfli: That's why we have these engineers at BASF who are always close to the line and close to the customers to support them. With BASF's own simulation tool much of the testing was transferred to the computer screen, whereby the programming of the injection moulding machine could be reduced significantly. And

unless you have a powerful computer simulation, it's a time-consuming trial-and-error method with plastics

### Petra Schmidt: Magnus told me that you succeeded in hiding the injection marks? Dirk Winkel: It all started when the engineers were actually suggesting huge ejector marks on the sides of the arms and I was absolutely

sure that this was not acceptable. Magnus Wästberg: Dirk and our engineers eventually solved this very elegantly by hiding all the ejection and injection marks in the joints and in other places. For example in one part there is a logotype that is the ejection area. By looking at the product you cannot make out where things have happened.

### Petra Schmidt: Why did you choose LED lighting?

Magnus Wästberg: We are almost only working with LEDs or 'Light Emitting Diodes' because for us it's the only interesting functional light source at the moment. It is a highly efficient emitter which today is also superior in light quality to other modern sources. The LED we are using in the Winkel w127 is a 'multichip LED', which is basically a cluster of verv small diodes. So actually all the light is coming from one point rather than from many different diodes. Thus you get a sharper light distribution with clearly defined shadows. You can direct it and soften it better. In short, you can control the light in the most advanced Dirk Winkel: Today sixty per cent of the sense.

springs play?

Magnus Wästberg: LEDs have a very long life span. In principle you could use this light

source more or less for 25 years without changing it - provided that the fixtures last for such a long time. Traditionally you use normal springs in a lamp and these wear out over time. Thus a cheap desk lamp collapses almost by itself after so many years. By comparison, the micro gas springs that we chose, last for 50,000 compressions without losing the tension. So it's a very sustainable. long-lasting mechanical solution. A normal spring always has a bit of slack in it. This one. by contrast, is very precise and has a very distinct fluid movement pattern.

Dirk Winkel: It was very important in the design to get the same performance in the material and the light as in the movement and the whole construction. Ultramid® like any polyamide is by default a superior material with high physical strength, a high melting point and a high surface quality. With Ultramid Balance, we got all these advanced properties of a very good plastic combined with the benefit of renewable resources.

Eva Höfli: Yes. Ultramid Balance is a polvamide that is based on up to 60 per cent renewable material derived from castor oil and it can be fiberglass reinforced. So it's biologically sourced to a large extent and like any kind of thermoplastic you can recycle it - albeit with some loss in quality when it's fiberglass reinforced. It is not biodegradable, but it stands for the attempt to develop new materials produced independently of mineral oil.

raw materials may be derived from renewable sources, this is no limit. Most importantly, Petra Schmidt: And what role do the gas it's about setting the course in an alternative direction

ERVIE

3

1

8 ЕΓ

 $\Sigma$ 2

G

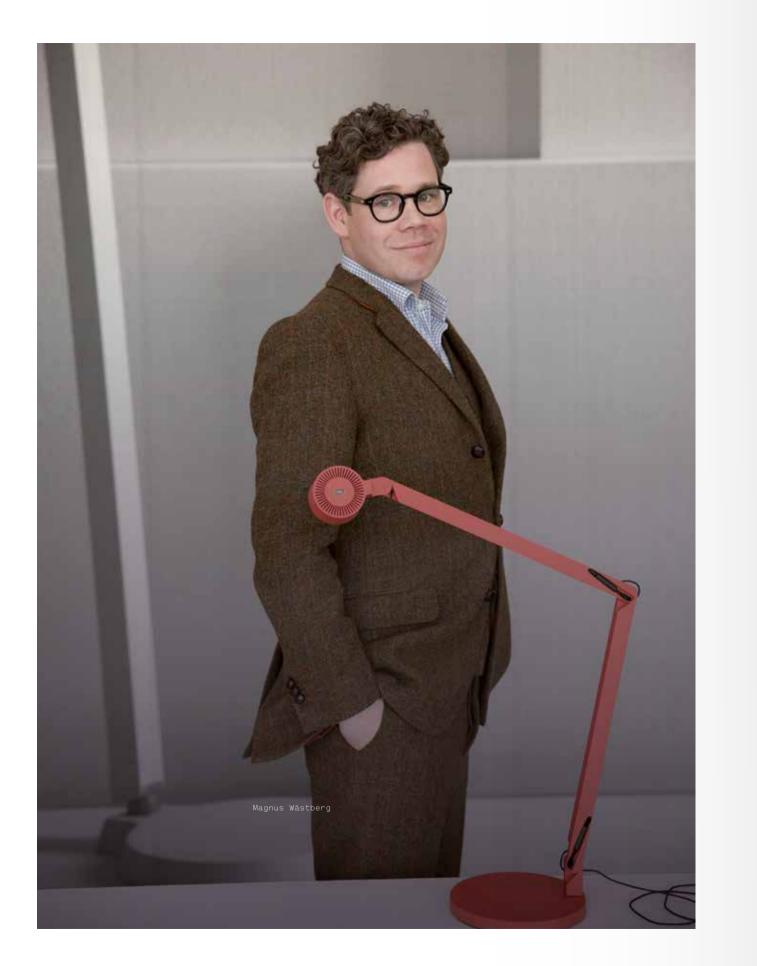
ā

DE

"The Winkel w127 is the first task lamp that I know of with arms made of solid plastic. In the injection moulding process, components are usually made thin walled in order to avoid distortion and sink marks. So the implementation of Dirk Winkel's design in solid plastic presented us with a challenge.

Now we have broken new ground. And we're happy about that, of course."

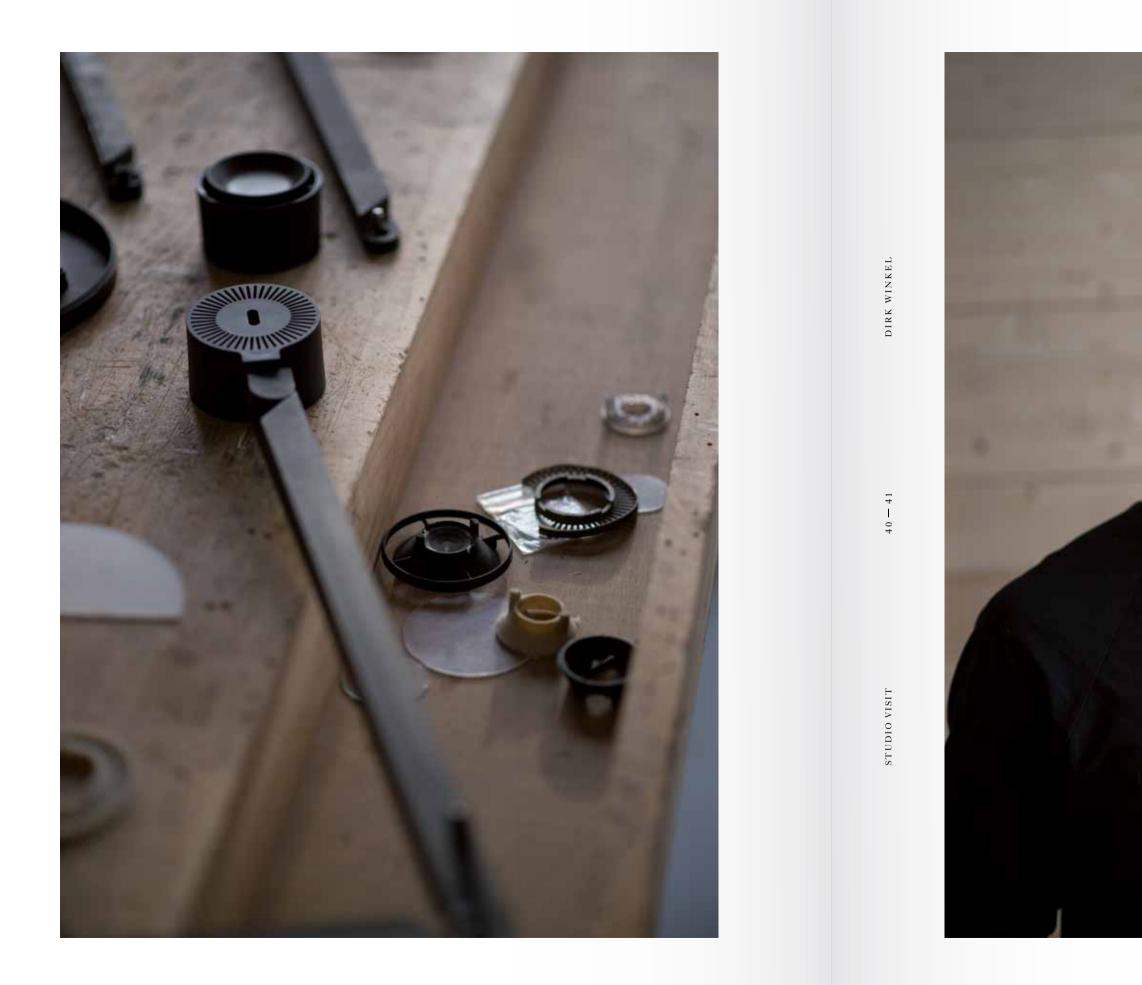
Axel Ebenau at designfabrik®



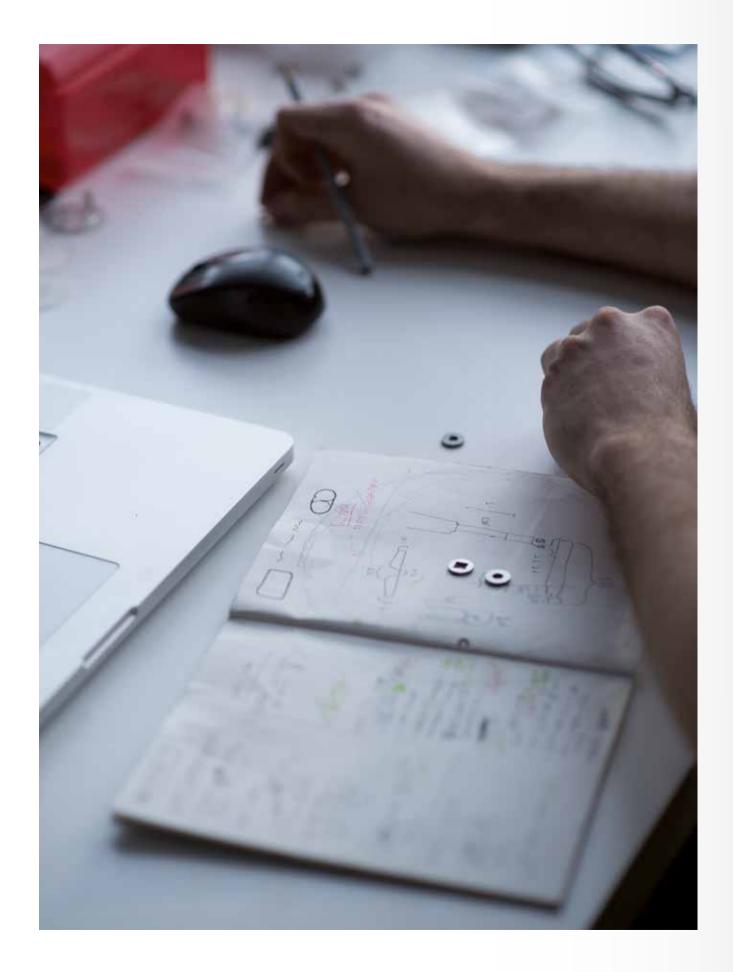
giving a designer to package,

Magnus Wästberg, Founder and Managing Director of Wästberg, Helsingborg, Sweden

# "Instead of merely a technical solution we prioritise both the technical and aesthetical values to the same degree."







WINKEL

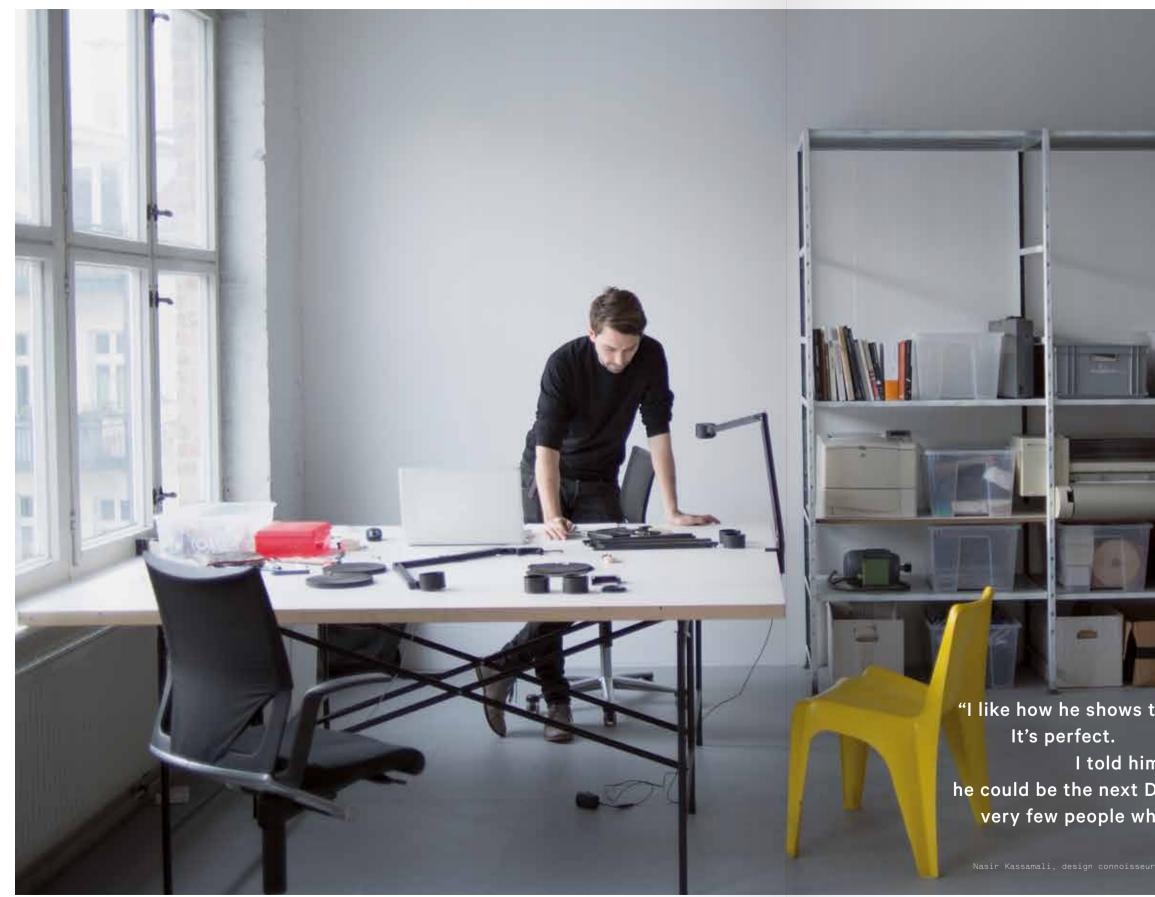
DIRK

42 — 43

VISIT

STUDIO V

"You have to admire the tenacity of a young designer who transforms his research into a product that can be produced and experienced. This is no easy task. The Winkel w127 lamp involves a new material for its construction, a new form of adjustment, and the newest light technology. Normally such a combination of advances is left to images, but Dirk has persevered while maintaining design dignity."



"I like how he shows the discrete beauty of plastics.

I told him that if he follows this path he could be the next Dieter Rams, and there are very few people whom I would give that compliment."

and CEO of the design company Luminaire, Miami, USA.

# Technical information

TECHNICAL INFORMATION

46 — 47

WINKEL W127

# Winkel w 127

### wästberg

highly energy-efficient multichip LED solution. This consists Winkel w127 is avaiable with base, clamp, pin and bracket. of a cluster of diodes instead of several separate diodes

Winkel w127 is manufactured of solid fiberglas reinforced By using multichip LED, so called multi-shadows are avoibiopolyamide that is based on over 60 per cent renewable ded and a very even light pattern is achieved. The diode material derived from castor oil. Like any kind of thermo- is cooled efficiently with an advanced cooling construction. plastic it is recyclable. The mechanical solution is based The fixture is equipped with both a reflector and a diffuser on micro gas springs, widely used in the automotive and lens, to give optimal light distribution and light quality. electronics industries. The gas springs have a lifespan of In addition, there is a glare protection system to minimize more than 50,000 compressions and give exceptionally good both direct and indirect glare. Winkel w127 is equipped with movement patterns. The shade is adjustable for universal a seamless dimmer that is operated by an IR-switch; a builtdirection of the light. The light technology is based on a in timer automatically turns the lamp off after five hours.

Material: fiberglas reinforced biopolyamide Light source: 1-9 W LED Light output: 1m/W 84 Colour temperature: 3,000 K CRI: > 90 LED life-span: 50,000 h		
Winkel w127 is manufactured of solid fiberglas reinforced biopolyamide that is based on over 60 per cent renewable material derived from castor oil. Like any kind of thermoplastic it is recyclable.		
The light technology is based on a highly energy-efficient multichip LED solution. This consists of a cluster of diodes instead of several separate diodes. By using multichip LED, so called multi-shadows are avoided and a very even light pattern is achieved. (See illustration right page)		
The mechanical solution is based on micro gas springs, widely used in the automotive and electronics industries. The gas springs have a lifespan of more than 50,000 compressions and give exceptionally good movement patterns.		
The shade is adjustable for universal direction of the light. There is a glare protection system to minimize both direct and indirect glare.		
Wnkel w127 is equipped with a seamless dimmer that is operated by an IR-switch		
A built-in timer automatically turns the lamp off after five hours.		
White Grey Black Red		

on a highly energy-efficient very even light pattern is light distribution and light IR-switch; a built-in timer multichip LED solution. This achieved. The diode is coo- quality. In addition, there automatically turns the lamp consists of a cluster of led efficiently with an ad- is a glare protection system off after five hours. diodes instead of several vanced cooling construction. to minimize both direct and separate diodes. By using The fixture is equipped with indirect glare. Winkel w127 multichip LED, so called mul- both a reflector and a dif- is equipped with a seamless ISOLUX:

8

49

INFORMATION

ICAL Z CHD

127 8 ЕΓ INK

M

Light technology

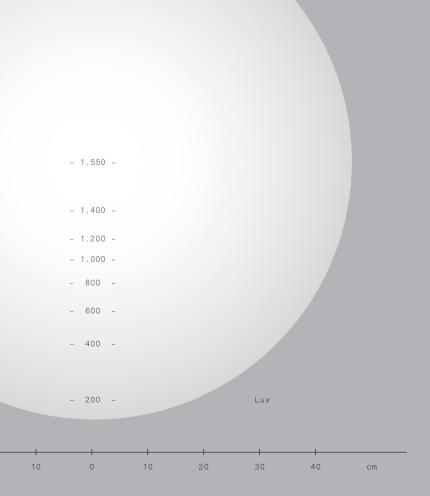
40

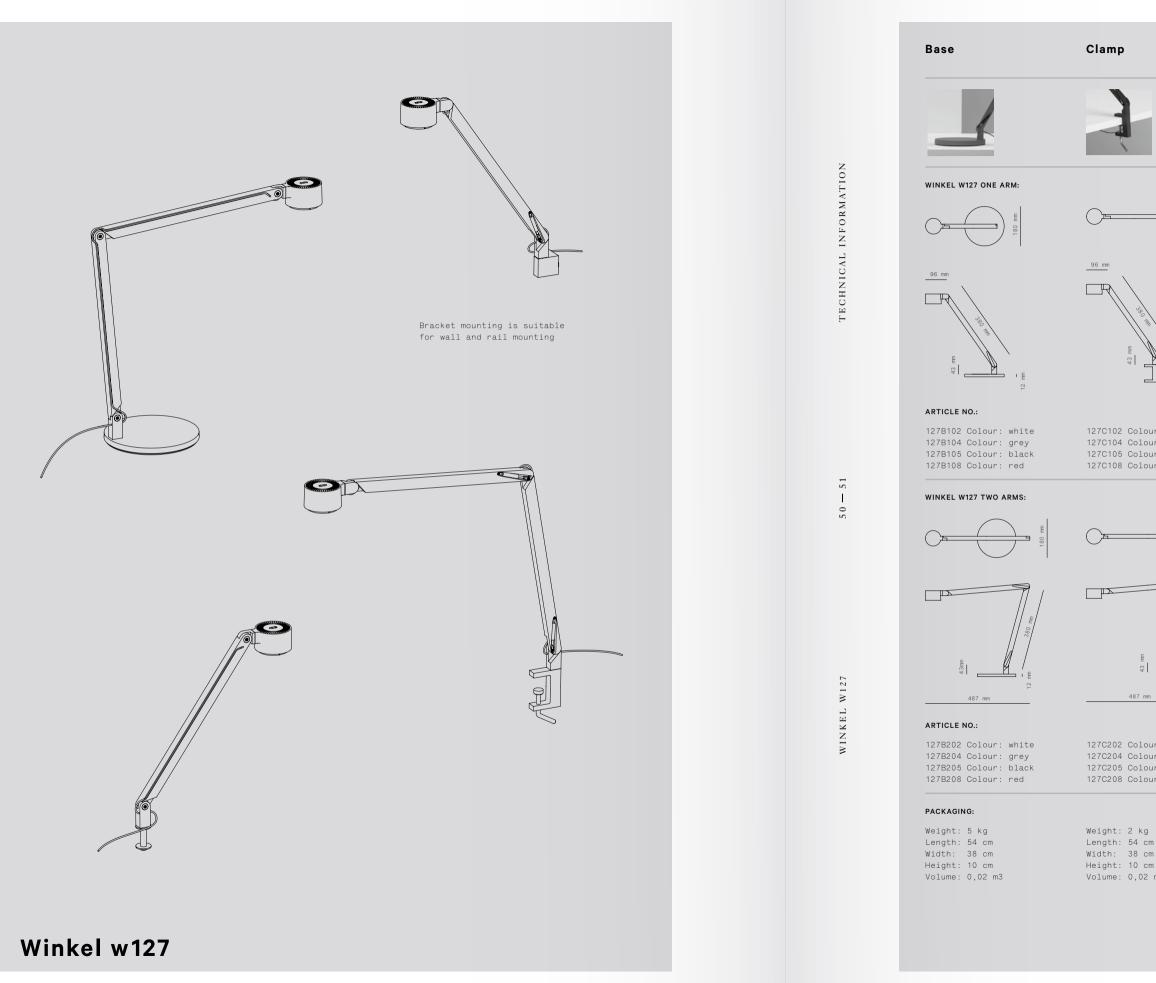
30

20

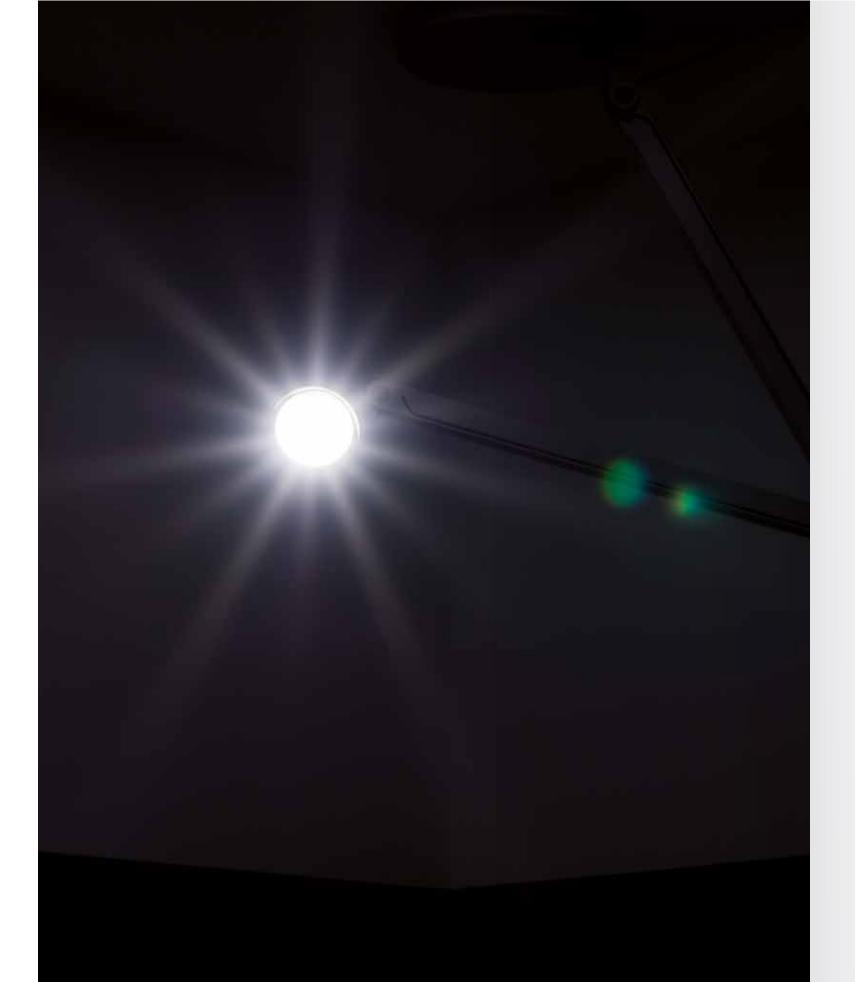
Winkel w 127

The light technology is based ti-shadows are avoided and a fuser lens, to give optimal dimmer that is operated by an





	Pin	Bracket
80 mm	43 mm 66 mm 06%	43 mm 43 mm 43 mm 49 mm 49 mm 49 mm
bur: white bur: grey bur: black bur: red	127P102 Colour: white 127P104 Colour: grey 127P105 Colour: black 127P108 Colour: red	127BR102 Colour: white 127BR104 Colour: grey 127BR105 Colour: black 127BR108 Colour: red
u		
m	ши <sub>2</sub> <sub>2</sub> 487 mm	<u>ши</u> 082 682 487 mm
bur: white bur: grey bur: black bur: red	127P202 Colour: white 127P204 Colour: grey 127P205 Colour: black 127P208 Colour: red	127BR202 Colour: white 127BR204 Colour: grey 127BR205 Colour: black 127BR208 Colour: red
I m m m : m3	Weight: 2 kg Length: 54 cm Width: 38 cm Height: 10 cm Volume: 0,02 m3	Weight: 2 kg Length: 54 cm Width: 38 cm Height: 10 cm Volume: 0,02 m3



### WÄSTBERG

Wästberg Box 22212 250 24 Helsingborg Sweden

T +46 42 284 010 F +46 42 284 081 info@wastberg.com www.wastberg.com

Swedish engineering mentality.

with designers like them could Wästberg's ers and BASF engineers. ideas be turned into successful products. The lamps have been honoured with more than 40 awards for design excellence, including 8 Good Design Awards, 5 red dot awards, Design Award of the Federal Republic of Germany, Elle Interior Design Prize, the Swedish Design Award, Wallpaper Design Award and Design of the Year. Wästberg is based in Helsingborg, in the southernmost region of Sweden, Skåne.

Т 0

ΗО

COLOP

A KEL z

### BASF designfabrik®

BASF SE Germany

The designfabrik® is located in the heart several awards and nominations like GOOD DESIGN (Chicago Athenaeum), Swedish Design Award (Svensk Form) and Designs of the Year (London Design Museum).

of BASF's sprawling industrial site in Dirk Winkel is a Berlin-based product de-Wästberg launched its premier collection Ludwigshafen. It is a consultation center signer who studied at the University of in 2008 and although this newcomer ap- whose doors are open to all customers Arts (UdK) Berlin and finished with a MA pears to have come out of nowhere - noth- who, as freelancers or company design- in Design Products at the Royal College ing could be further from the truth. Its ers, require assistance in working with of Art, London in 2010. In 2012 he has founder, Magnus Wästberg, was born into BASF materials. This is where engineers been teaching Design Construction at the the lighting trade and had through expe- and industrial designers provide infor- Industrial Design course of the UdK. He rience gained an understanding for the mation about component design, the right is specialised in lighting and furniture need to fuse aesthetic sensibility with processing methods, surfaces and colours, design and worked for different designers as well as about form and function. "At and design houses in Berlin and London Today Wästberg has a growing catalogue the designfabrik, we connect designers before setting up his own studio in Berdeveloped in close collaboration with from all kinds of industries with BASF's lin in summer 2011. His work has been some of the World's most renowned ar- unique product portfolio. We support them featured by Frame, icon, I.D. Magazine, chitects and designers. Including David in finding the right materials, colours and idfx, Viewpoint, Gestalten Verlag, Thames Chipperfield, Claesson Koivisto Rune, Ilse application methods - helping to create & Hudson and many more and was on dis-Crawford, James Irvine, Jonas Lindvall, nothing less than a better product in the play at numerous places like Marta Her-Jean-Marie Massaud, Nendo, Inga Sempé, end", explains Eva Höfli, who works as a ford Design Museum, Art Basel Miami and Maarten Van Severen and Dirk Winkel. Only designer at the interface between custom- St. Etienne Design Biennale and has won

designfabrik® - H612 67056 Ludwigshafen

designfabrik@basf.com www.designfabrik.basf.com

### DIRK WINKEL

Dirk Winkel Design Office Eberswalder Str. 29 10437 Berlin Germany

T +49 (0) 170 8807 107 dw@dirkwinkel.com www.dirkwinkel.com

### IMPRINT

Published on the occasion of the presentation of Winkel w127 at Salone Internazionale del Mobile-Euroluce, Milan, 2013

### **DESIGN / ART DIRECTION**

Lambl/Homburger, Berlin, Germany www.lamblhomburger.com

### PHOTOGRAPHY

Gerhardt Kellermann and Ana Relvão, Munich, Germany www.gerhardtkellermann.com

Page 36: Kristian Pohl, Stockholm, Sweden www.pohl.se

### TEXT

Petra Schmidt, Frankfurt/Main, Germany Karianne Fogelberg, Munich, Germany www.schmidt-fogelberg.de

© 2013, Wästberg, Helsingborg and BASF SE, Ludwigshafen. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, Dr. Matthias Scheibitz mechanical, photocopying, recording or otherwise, without the prior permission Engineering Plastics Europe of the publishers.

designfabrik® and Ultramid® Balance are registered trademarks of BASF.

### TEAM

DIRK WINKEL Designer

### WÄSTBERG Magnus Wästberg

Founder and Managing Director Wästberg

Hasse Larsson Head of product development

### BASF Dr. Axel Ebenau Segment Management E&E Industry

Dr. rer. nat. Andreas Wonisch, Simulation Engineering & ULTRASIM®, Rheology and Material Data

Steffen Funkhauser Head of BASF designfabrik®

Alireza Talebloo Market Development/Technical Service

Helge Weiler Simulation Engineering, Team leader Structural Analysis - ULTRASIM®

Eva Höfli Designer at BASF designfabrik®

Dirk Scholz Head of Technical Service, BASF Color Solutions Germany GmbH

Team leader Product Development









### wästberg

Wästberg Box 22212 250 24 Helsingborg Sweden

T +46 42 284 010 F +46 42 284 081 info@wastberg.com www.wastberg.com