

KLEIBERIT: AN INNOVATION, SUCH AS HAPPENS ONCE ONLY EVERY 15 TO 20 YEARS

> THE COATING Revolution

Anyone seeking to introduce a fundamental change needs patience and determination; like Kleiberit, who for many years have been developing a totally new process. Now, it is ready; and at *Ligna* the company announced the breakthrough with its revolutionary *HotCoating* process. Reason enough for *möbelfertigung* to visit the company at Weingarten in South Germany.

möbelfertigung: Kleiberit depends to a high degree on the use of raw materials and thus has been seriously affected by massive recent price increases. What is the current position for your company?

Klaus Becker-Weimann: In one word: terrible. So far, we have managed to continue production uninterrupted and have been able to meet all customer orders – but until a few weeks ago we had a daily struggle to obtain certain ingredients. For example Ethylvinylacetate (EVA). If we had been denied a single delivery, then everything here would have come to a halt. Likewise, we have had to put a brake on some activities due to price increases. Castor oil is an important ingredient of two-component systems, and the price has doubled within a year.

möbelfertigung: Is the situation any better now?

Klaus Becker-Weimann: Unfortunately, suppliers place limits on what raw materials they will supply to us and other customers. They base this on the quantities we purchased over the past few years. The result is, that a major growth in sales is simply not possible. Up to now, Kleiberit has been able to purchase the quantities we needed, but it has always been a battle.

möbelfertigung: Two years ago you opened the new technolo-

gy centre in Weingarten. What has happened since then?

Klaus Becker-Weimann: The technology centre was completed right in the middle of the international credit crunch, which we could not have anticipated. So the first thing to do was hold our level. By the middle of last year things looked different and we resumed expansion, especially into markets in which we see a great future. For example, we bought an EVA hot-melt glue factory in China. The background was quite simple: it had become too expensive to supply from Germany. In addition, at the moment it looks as if the raw materials industry there is increasing production capacity. I think that within a few years China will have the most advanced raw materials factories in the world.

möbelfertigung: Do you regard this as a form of added security for future supplies to Germany?

Klaus Becker-Weimann: Definitely. The simple fact is that we are already in the position that, when we get an idea for the new use of resin, polyolefine (PO) or EVA, it cannot be produced on the basis of just any existing raw materials process. Sometimes, it is just too difficult or expensive to modify the system. And when new plant and machinery is set up, it doesn't happen here but, for example, in China.

If Central Europe is not to become de-coupled from new developments and we are to maintain our share of this market, we must stay on the ball with new products.

möbelfertigung: What other investment have you planned?

Klaus Becker-Weimann: We have a number of large projects here in Weingarten, for example two new PU-hotmelt glue production systems, which will be completed in a few weeks. This is necessary to meet both existing demand, and the steady increase in demand for conventional *HotCoating* products. We are one of the world's three biggest manufacturers of PU-hotmelt glues.

möbelfertigung: Chemists have been researching the *HotCoating* process for many years. What is the current state of play?

Rainer Kampwerth: At present we are working through our results from *Ligna*, which was an outstanding trade fair. We are confident that we have now achieved the essential breakthrough in *HotCoating*.

At present, the technical status of *HotCoating* is that we now achieve perfect results with applications, in particular laminar floors. This sector is booming. We have also come a long way with melamine-coated board; at present, we are working to optimise

the process to work with different grades of melamine. In particular, we are trying to simplify the process and to create consistent property profiles as these relate to everyday hardness, abrasion and scratch resistance.

möbelfertigung: Did you anticipate that this year's *Ligna* would be so important for adhesive chemistry?

Rainer Kampwerth: Yes, because prior to the fair Kleiberit had done pioneering research and development, well supported by marketing. Of course, another major factor was that our company had pursued this project with great determination for several years.

So the products have steadily improved and the market has been given plenty of time to prepare its reaction to the new process. Now, the *HotCoating* process is widely known amongst industrial users.

Peter Mansky: We approached *Ligna 2011* with enormous focus. In the run-up to the fair we prepared many hundreds of samples and mailed these to potential customers: simple particleboard plus a

HotCoating surface, in superb quality. Our aim was to attract as many potential customers to our stand as possible. Then, just to prove it was no fluke, we set up the machinery at the fair on our stand and gave live demonstrations to show that we really do know how to run the process properly. We achieved amazing results under less than ideal operating conditions at the fair – and that convinced many visitors.

möbelfertigung: As mentioned earlier, Kleiberit has been developing the *HotCoating* process for many years. Was there a point at which the process was in any doubt?

Klaus Becker-Weimann: Essentially, you would not get a process of this kind from a large corporation: a manager who had clung to a difficult project of this type would certainly have been asked to leave. It is not easy to carry on such a project for a long time with no return on investment.

Being a co-owner in the business, I was able to convince my partners that the *HotCoating* pro-

cess was an important investment in the future of the company. This is the kind of innovation that happens only once every 15 to 20 years. It is a very long time indeed since there have been any major changes in the production of adhesives, and the general view was that we had reached the end of the development line. To give but one example, take EVA adhesives.

"We wish to establish *HotCoating* as a further, fully adequate coating system."

Rainer Kampwerth

Of course, over the years the question was repeatedly asked as to whether *HotCoating* was the answer, but it was also the key to further ideas and other problems.

möbelfertigung: Roughly how much did you invest in the project?

Klaus Becker-Weimann: Certainly several million Euros. For example, for several years we seconded two or three employees

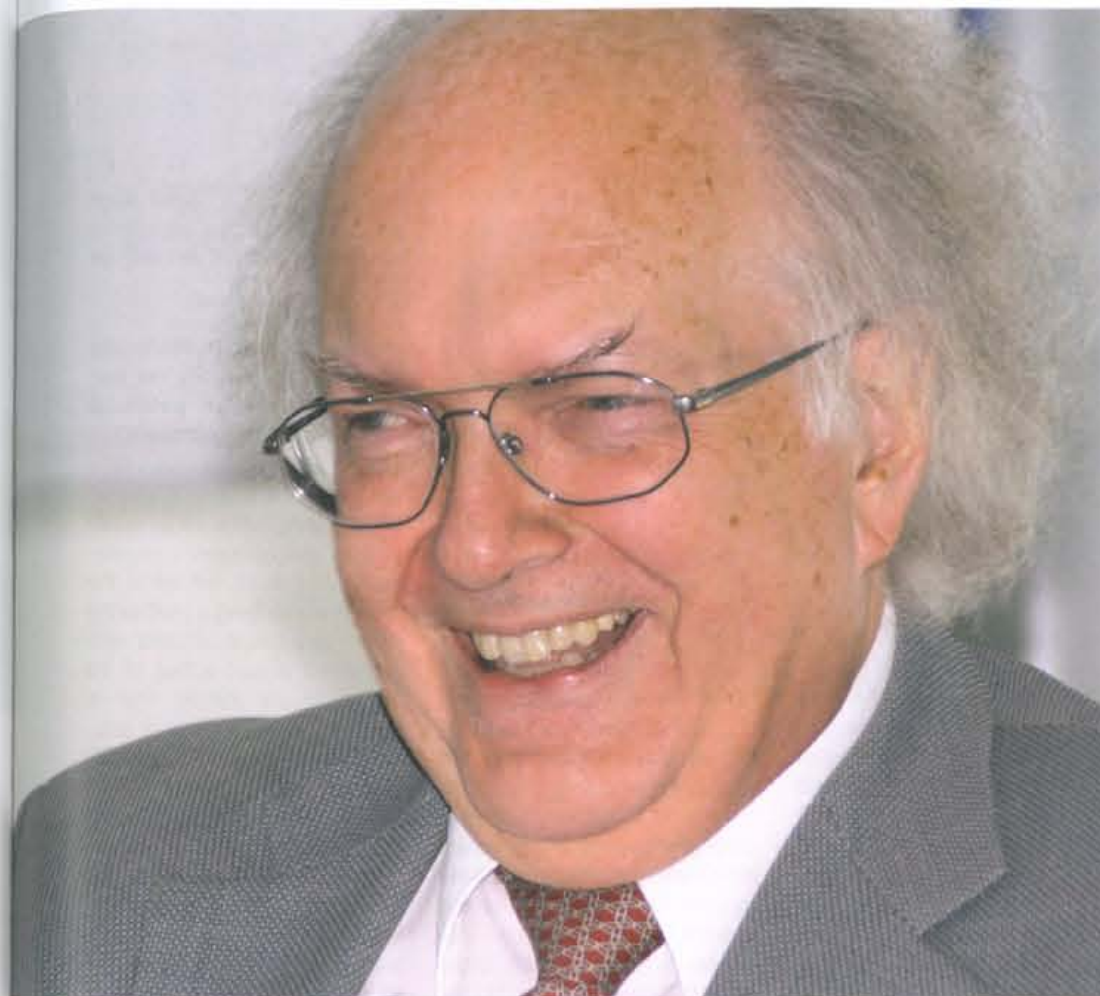
to work full-time on *HotCoating*; we produced large numbers of samples, exhibited at trade fairs and so forth. The list is long.

Each year we exhibited at trade fairs and described the progress made with *HotCoating*. Initially we were there with parquet, later with veneer, and then corundum produced top-notch resistance to abrasion. Now, we also have a high-gloss process, even combined with digital print.

möbelfertigung: What is Kleiberit's current goal with respect to *HotCoating*?

Rainer Kampwerth: To establish the process as a full-value additional coating process for flat materials of all kinds. Not only do we work with particle board, but with all plastics and glass – and in each application in combination with other decor-application processes such as digital print or decor paper coating.

möbelfertigung: What other applications are there for *HotCoating*?



➤ Physicist Klaus Becker-Weimann is co-owner and chief executive of Klebchemie, and a very strong proponent of the *HotCoating* process, whose potential he recognised early on

The discussion was hosted by Klebchemie, brand name Kleiberit. Participants were:

Klaus Becker-Weimann, co-owner and chief executive;

Rainer Kampwerth, head of surface product sales;

Peter Mansky, head of marketing-communication;

and Holger Scherrenbacher, head of building and furniture adhesives sales.

Rainer Kampwerth: One totally new application will be the application of a highly abrasion-resistant coating to decor paper. Also, the *HotCoating* process is apparently highly interesting for coating thin, printed paper. At the moment, one disadvantage is the limited width of machines suitable for this purpose. We can apply an amazingly elastic and robust surface to AC3 decor papers, but only to a width of 600 mm. To be successful with the *HotCoating* process we will soon go to full-format, if possible to 2100 mm but certainly at least 1300 mm.

Not only are we continually working on improvements to *HotCoating* technology, but also on the commensurate process machinery.

Holger Scherrenbacher: In particular, the process has become more interesting for users ever since we fully overcame the problems associated with high-gloss surfaces. With the *HotCoating* process we will be able to obtain a degree of bending that would previously have caused fractures in lacquer-sealed veneers or paper. In addition, *HotCoating* surfaces also have a degree of transparency that was never previously attainable.

möbelfertigung: Has the *HotCoating* process now achieved the market penetration to which you aspire?

Peter Mansky: At the very least, we have created a very promising

vacuum into which we now grow.

Rainer Kampwerth: Processes such as this are very difficult to anticipate and plan with any precision. If that had been possible, we would have been ready to respond to the enormous demand which we now face. At present, we have a steady stream of visitors here at the factory consisting of the world's leading furniture and board manufacturers. We have received test materials by the pallet load. The quality of our *HotCoating* business contacts is amazingly good. Also, we are well beyond the point at which potential customers just want to look around for a bit of information. Without exception, they all have a single goal: added value with *HotCoating*.

möbelfertigung: How many *HotCoating* systems are now in operation out there in the market?

Holger Scherrenbacher: At the moment twelve, all working in panel applications. We are particularly pleased is the latest system, which we installed in Swiss factory making laminates. This manufacturer is progressively switching a large range of products over to the *HotCoating* process.

Peter Mansky: And not just that: they have adopted the term *HotCoating* as a surface quality description, and use this in their advertising.

Rainer Kampwerth: In addition to the twelve existing systems in use by manufacturers, there are

twelve more at the project stage and based on our experience we reckon at least ten will be realised.

möbelfertigung: Is there any way you can quantify the maximum production potential of the *HotCoating* process?

Rainer Kampwerth: That's difficult to say. The volume as measured in square metres varies according to the customer's requirements. At present, we are in the process of supplying a *HotCoating* system to a Turkish customer with a planned annual output of 10 million square metres. That is equivalent to 1,300 tons of incoming raw material. We are on the verge of signing a contract for another system designed for 6 to 8 million tons a year.

We have had internal discussions about the process total potential. At present, the *HotCoating* process is simply the best there is for flooring and abrasion-resistant foils. For this reason, we believe it will achieve full market acceptance within ten to 15 years. As we see it, we believe that a large proportion of floor coverings manufacturers around the world will switch at least a portion of their output to the *HotCoating* process. It provides excellent value for money and has superior all-round properties.

Klaus Becker-Weimann: As far as Kleiberit is concerned, this year we plan to produce over 100 tons of *HotCoating* products. As things now stand, this represents just a small part of our Kleiberit output. However, our vision is that the market can grow to more than 20,000 tons. On reaching 10,000 tons we will more than double our turnover.

Rainer Kampwerth: We are highly delighted by the fact we are working with a number of manufacturers who are first-class business references; not just for mass-produced products, but firms known for first-class technology and product quality.

möbelfertigung: Are there any regional differences, as far as the interest displayed?

möbelfertigung staff writer Tino Eggert (left) tours the Kleiberit Technology Centre in Weingarten with Rainer Kampwerth (centre) and Holger Scherrenbacher to examine high-gloss samples recently produced with the *HotCoating* process.



Rainer Kampwerth: Of course there is a lot of interest from markets going through a phase of expansion and are prepared to invest. At present, there is slight reticence in Northern Europe. By contrast, we are getting interesting enquiries from China, India and South America; regions in which it is not unusual to get a quick decision.

möbelfertigung: What could be done to make the *HotCoating* process even better?

Rainer Kampwerth: There are still a few parameters we could change for the better. I worked for many years in the industrial painting business and there are one or two things I would like to address. The *HotCoating* process is certainly not a 'catch-all' solution to every particleboard problem. In each and every case we work to hone the system performance. Likewise, we need to agree an acceptable testing regime, because the *HotCoating* process does not achieve the full and final quality until after a lapse of about 48 hours. So if a user tests the finish immediately the product comes off the line, he will never find the superior qualities that the surface will achieve after fully drying.

möbelfertigung: What's the position with respect to the patents? Will Kleiberit be able to keep ahead of the competition for a long time; are any competitors in sight?

Klaus Becker-Weimann: In spite of the extended development period, so far we know of no other company following in our footsteps. Whether this is due to patent protection or the expensive technology required, is difficult to say.

Peter Mansky: The process is not just a question of the patents, but rather one of the know-how accumulated over many years. Klebchemie can operate the *HotCoating* process because of its enormous experience with chemical reactions in polyurethane adhesives. It's not so easy to copy that from one day to the next.

"We do not know of any other competitor offering the *HotCoating* system."

Rainer Kampwerth: A few years back the paint industry regarded our process with amusement. Later, when we had made further advances, our interest sharpened up. For it looked as if the process was going to be capable of delivering a range of results which were simply beyond the capability of liquid paint processes.

möbelfertigung: How much interest is there from the furniture industry?

Holger Scherrenbacher: Enormous; in particular from companies using paper for direct-coated particleboard. At present, liquid paint cannot obtain results that are anywhere near as good with

respect to colour brilliance, colour depth and abrasion resistance.

Rainer Kampwerth: Even so, at present interest is coming mainly from the growth markets. The German furniture industry is sitting on the fence.

möbelfertigung: What Kleiberit's position with respect to other processes which now engage the attention of the furniture industry, such as plasma application of edge-banding?

Klaus Becker-Weimann: We have successfully tested our own products and they are good, but before going to market we will hang fire until the patent situation is clear.

möbelfertigung: But with respect to laser welding, you are on the ball?

Klaus Becker-Weimann: Yes, definitely. We have an exclusive contract with Homag under which, when they sell a 'Laser-melt' system, they recommend our products. Of course, this arrangement is a two-way street.

möbelfertigung: Are there any other new processes on the way that might shake things up?

Klaus Becker-Weimann: Of course. For example, if we can get membrane press technology to work with a PU-hotmelt glue – that would be very interesting.

One of our customers is working on this and the first tests have come out quite well.

möbelfertigung: Mr Becker-Weimann, we have talked long about your company, the *HotCoating* process and what might transpire over the next ten years. How long do intend to remain here as co-proprietor and boss, and what plans are there for the succession?

Klaus Becker-Weimann: This job is enormously satisfying, every day. For the moment, I have no immediate plans to retire. But of course, I want to prepare for the succession come the right time. I am backed by a strong team of nine senior managers, each responsible for a particular aspect of the business. From that point of view, I am confident about the future and likewise our ability to give customers the assurance we will be around for a long time to come.

möbelfertigung: Where do you see Kleiberit in ten years?

Klaus Becker-Weimann: Our goal is to double turnover about every six to seven years. Of course, the recent international crisis set us back a bit, but we are now doing well again. In particular, we hope the *HotCoating* process will enable us to reach this target in 2018.

This interview was conducted by Tino Eggert and Doris Bauer in October 2011 and published in möbelfertigung issue 5/2011.

>Left to right: Rainer Kampwerth, sales manager surface material products; Holger Scherrenbacher, head of sales for building and furniture adhesives; and Peter Mansky, Kleiberit head of marketing communication.

