

WOOD

Southern Africa

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TIMBER TIMES



January 2016 Vol. 41. No. 3



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Technology on test

This article first appeared in the Furniture Journal, written by the magazine's editor, Melvyn Earle

If you are about to invest in a new machine – any machine that involves the application of adhesive – consulting an adhesive supplier with the technical knowhow to help you make the right decision probably isn't the first thing you'd think of.

That is possibly because your adhesive supplier cannot demonstrate the most appropriate adhesive with the product you want to produce using full size machines; or maybe it's because he does not work hand-in-hand with the machinery supplier whose machine best fits the task to optimise the process, the adhesive and the machine so they meet your exact requirements perfectly. At Kleiberit's Technical Centre that's exactly what they do. And a lot more besides.

Big enough to be international, small enough to be flexible, Kleiberit is perhaps best known for developing customer-focused adhesives. More than half of all of the adhesive produced at its German site is purpose made. "We are very strong on product development," affirms Kleiberit's Industrial Adhesives Business Manager, Wolfgang Hormuth. "We develop products, we carry out strength and climate tests, we analyse problems and provide reports, we trial production on different

substrates - all on the same site. That has a big advantage: we can control and guarantee consistency of our products."

At the very heart of Kleiberit's success is the Technical Centre. Built in 2008, the upper floor is dedicated to chemistry and equipped with small reactors in which small batches can be mixed, or production can be simulated. The lower floor houses quality control and product testing – and the range of equipment includes the most modern, full-size production machines through to older machines that enable customers' own materials to be tested on a machine that's closest to the one in their own factory.

Jens Fandrey is Director of Project Management within the Technical Centre. "All the machines in the Technical Centre are full size," he confirms. "It means we can work with full-size boards. We have tables for manual bonding and testing of adhesives for the textile, automotive and woodworking sectors. We can pre-treat substrates to improve surfaces - and that's important because the behaviour of the substrate is a first priority. We have saws to cut up substrates, an edgebander we can trial thermoplastics and PUR hotmelts on and a full range of presses that include flat lamination and membrane pressing.



Product testing is carried out to microscopic level in one of the laboratories at Kleiberit's technical centre in Weingarten-Baden

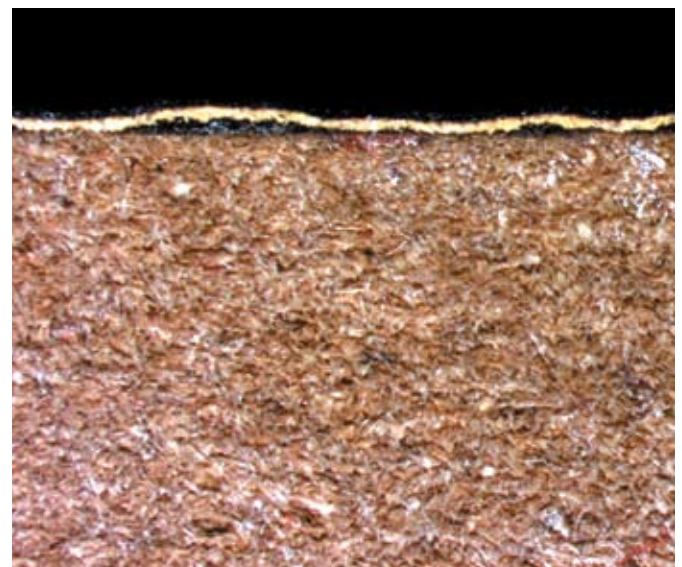
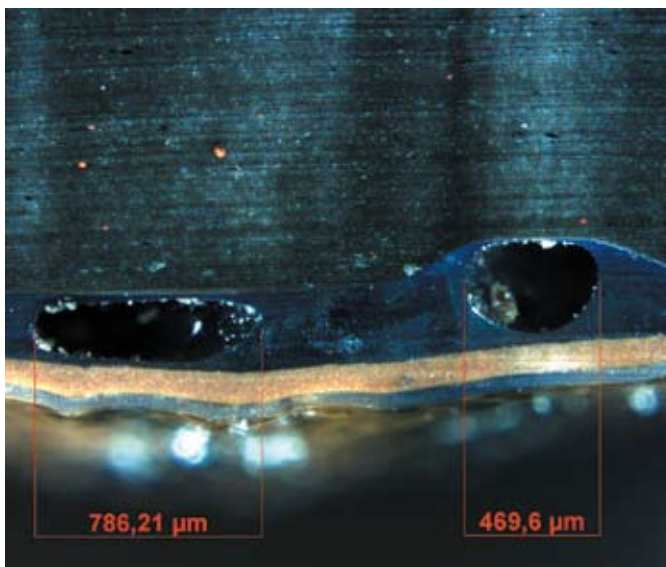
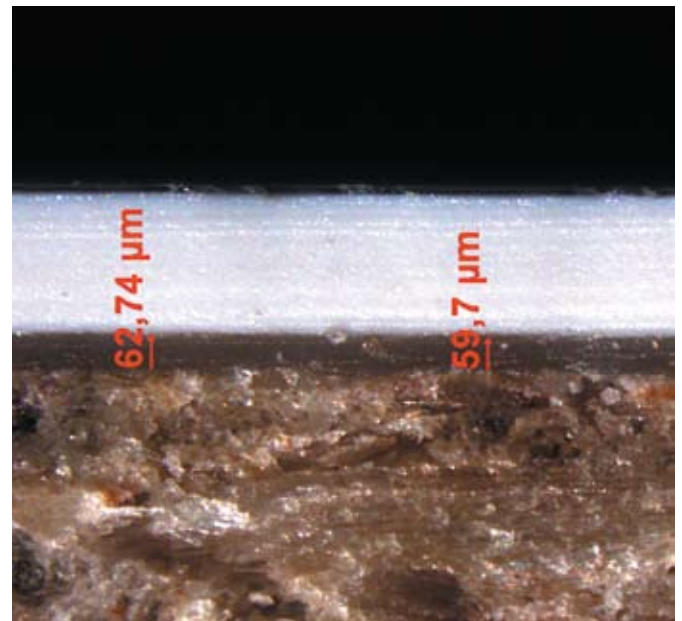
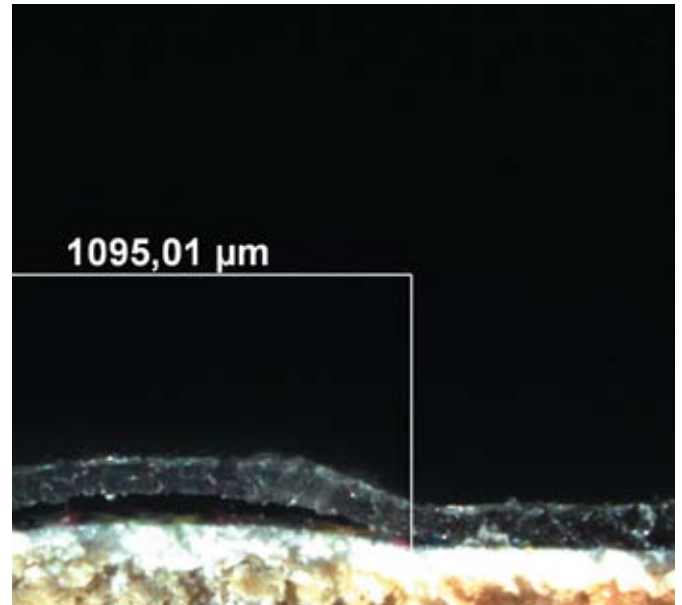
"Not all the machinery is new because not everyone has the latest model in their factory," he adds, as we walk past several older presses. He singles out a particular favourite among a handful of stalwarts: "No one else will have one of these," he says. "It's an edgebander built in 1986 by Kleiberit using components from Friz. This is the world's first PUR hotmelt machine. It proved the case for PUR hotmelts." A more recent example of Kleiberit's engineering development work is the roller at the head of one of the Barberan lines.

Kleiberit's engineers were instrumental in its development. "It is a roller coater with index station and laminator," says Jens. "We developed a roller with better release and coating properties. We often get involved with machinery manufacturers, and have a team of ten engineers who can help develop engineering solutions when there are specific problems to be overcome. We have an especially close co-operation with the pre-melt people and have designed special systems that work particularly well with our adhesives. With our knowledge of engineering and expertise in chemistry, it makes it a lot easier to sit down with customers and come up with real solutions. It's something we enjoy."

Walking around Kleiberit's Technical Centre is like touring the edgebanding, pressing and laminating stands of a mini Ligna. A short cycle press and a calendar press sit adjacent to two hotcoating lines. On one, trials are being made with embossings to create new textures and a super-supermatt finish; on the other are hot-coating samples finished with an ultra-high gloss surface – a process developed by Kleiberit.

"We are not a chemical company that only supplies adhesives," says Jens. "70% of our work is process design. We encourage manufacturers to talk to us before buying a machine. We can often help with best practice, secondary processes and so on. It is a service to customers who are investing in capital purchases."

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Kleiberit's specialists provide photographic evidence to customers when identifying production problems



Older machines and bench testing jostle for space with entire production lines - all so Kleiberit's technicians can demonstrate and test products with clients on the most appropriate older or more recent machinery, as best mirrors production in their own factory



Wolfgang Hormuth



Jens Fandray



Set to one side of the Technical Centre is a climate controlled profile wrapping room equipped with a customised machine that has fast changeover pre-melt facilities. "Our wide range of products is tested here," says Jens.

"We can simulate any climate and be 100% certain the product will perform correctly, wherever the customer's factory is based. And to prove it, we carry out pull tests for peel strength in harsh conditions like 98% humidity, Xenon tests to ensure UV-stability of special products, long-term tests in extreme conditions and cold temperature performance tests. We can demonstrate five years of wear in one cycle. We do not only test to industry standards, we test to destruction – then we put the results under a microscope and find out how the various elements performed."

Kleiberit's specialists have developed hundreds of adhesive products that have found favour the world over and are readily available. But it's the specialist products, the new formulations for individual customers, the problems customers experience when edge-bands peel or foils delaminate that really put the company's Technical Centre in the spotlight.

"We always tell customers if you arrive with a problem you will leave with a solution," concludes Wolfgang Hormuth. "We will identify the problem, often at microscope level, and send pictures as proof in a couple of days. We can help you change the process parameters and even provide cost calculations if you are planning to invest in new machinery. It's all part of what Kleiberit customers expect."

If you're about to invest in new machinery, or you have a problem you would like solving, why not give Kleiberit a call first?

Edited by Danielle Petterson

