

Technical textiles

Challenges and opportunities

Heimbach Specialities was founded in 1874 (originally as R. Bruch & Cie) in Neu-Moresnet, Belgium, for the manufacture of felts for the paper industry. Over the last 25 years production has developed and become orientated towards highly specialised press felts and dryer fabrics for the paper industry with an additional focus on specialised technical textiles and conveyor belts. High-performance textile products are now being produced that are able to satisfy the most diverse requirements of the timber processing and chemical industries, the construction and plastics industries as well as the food industry. We interviewed Managing Director Dr Ralf Kaldenhoff at our Belgian site.

"We offer numerous solutions for problems that we are not yet aware of"



Dr Ralf Kaldenhoff has led the Technical Textiles business unit for more than 20 years

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Dr Kaldenhoff, let's talk about technical textiles.

Dr Kaldenhoff

A fascinating topic, at least for me. Although our products are not normally the main factor in the customer's production, they are often the key to a frictionless process. Our task is to determine the applications that make production as efficient as possible. We

have a wide range of technologies at our disposal, a very extensive array of machines and, due to our long history, a lot of know-how. In most cases we do not invent completely new products but combine suitable fibre raw materials, textile fabrics and other modules and put this overall textile concept together according to the individual wishes of the customer – comparable to the fabrication of a tailor-made suit.



Coated spiral fabric



Pasting belts for the production of lead batteries

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What is the philosophy that underpins your actions?

Dr Kaldenhoff

Today more than ever, it is important to focus on fulfilling individual customer requirements. And this is especially applicable to our Technical Textiles business unit: There are no “off the shelf” products. We see ourselves as partners of our customers and search persistently for the optimal solution for their process and transport problems. A pre-requisite for this, of course, is that we must begin with the need to understand the individual steps in the customer’s process in order to be able to work out the specific demands on our technical textile and the possible improvement potential that its use can bring. This is the foundation for the construction of our technical textiles. We are always particularly successful when we deliver a measurable added value to the customer by using our products.

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Can you give me an example of this?

Dr Kaldenhoff

Conveyor belts with seam closing come to mind straight away. In contrast to using endless belts it is no longer necessary to disassemble and reassemble the production machine when the time comes to change

and install a new belt. Within a short space of time the initially open conveyor belt with closing seam can be joined while in the machine and shut times as well as production stoppages can be reduced considerably.

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How do you develop new applications for your products?

Dr Kaldenhoff

We are inquisitive and keep our eyes peeled at all times. Even with regular customers we look at the other facilities and processes in their operation. Wherever products need to be transported under the most varied operating conditions, say for example that they must be easy to remove and without markings, there will be potential openings for our technical textiles. It is self-evident that we have to understand the “language” of our customers, which means knowing the specific specialist terminology, and that we are able to comprehend new complex processes quickly.

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What are the core segments of your turnover?

Dr Kaldenhoff

Our products for the timber-processing industry represent an important segment for our business. These are conveyor and ventilation

belts for plaster board production as well as press pads, used in the production of laminate floorings and furniture boards. Over and above this, our strengths lie in specialised belts for textile equipment. We occupy a leading position in impregnated pasting belts for the production of lead batteries. And let’s not forget the most “spectacular” application: arrester tapes to assist in the deceleration of jet planes on landing. This shows in a particularly impressive way the enormous forces that our high-performance textiles must withstand and what our specialist multi-layer woven fabrics can achieve.

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How do you assess the future prospects for your business area?

Dr Kaldenhoff

The market research forecasts are very positive. There are almost limitless application opportunities for technical textiles. As I always say: We offer solutions for numerous problems that we are not even aware of yet. Technical textiles are able to offer enormous versatility and functionality because of the ability of fibre raw materials and mixtures, yarn materials, different textile production technologies and finishing with plastic coatings to offer an almost unlimited number of characteristics. The challenges on the one hand are finding the suitable design and/or →



Spiral closing seam in a transport belt for the food industry



Process belts for the food industry

the suitable solution for the relevant application, and on the other finding the application problem that can already be resolved by our existing technical textiles.

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This also implies that your products must fulfil many different requirements, doesn't it?

Dr Kaldenhoff

Yes, and this is what makes our business so exciting. Let's just take a look at the food industry where our textile products must conform to high standards of hygiene. There are always new requirements, standards and certifications that must be fulfilled or complied with. In the paper industry specific characteristics are required to successfully control dewatering on individual paper grades, whilst in the fibre cement board industry the demands are for long lifetimes in high-stress situations.

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The pace of innovation of technical textiles is enormous. How does Heimbach react to it?

Dr Kaldenhoff

By means of regular exchanges about current activities with our colleagues from within the Heimbach Group and our Technical Textiles

business area (Heimbach Specialities in Belgium, Marathon Belting in England, Industrie Tessili Bresciane in Italy). Also through collaboration on certain projects and by continually investing in research and development. In parallel we collaborate with national and international external research organisations and institutes. Attending specialist trade fairs and trend-setting fairs – such as the iba for specialist bakery equipment, or the Anuga FoodTec for the food and drinks industries – is essential in order to pick up new ideas and developmental trends and deepen existing relations with potential users.

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At your site in Belgium you also produce for the paper industry. What is the focus of your efforts?

Dr Kaldenhoff

We have always been closely linked to the paper industry. Since the beginnings we have been producing press felts and dryer fabrics not producing fabrics and felts not only for the paper and pulp industries, but also for sludge dewatering. These are areas that will undoubtedly remain attractive and provide growth in the future. The name of our company stands primarily for meeting the challenges of specialities and also for a commitment to the development of tailor-made solutions. When the demands on paper

machine clothing are particularly high in terms of type and surface characteristics – such as clothing for the production of artists' or banknote paper – our products have proved very effective. Seams and surfaces free from markings are a must for refined paper grades. In other cases the requirement is for a defined surface structure of the paper. For such applications we produce special marking felts.

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Let's talk about food-compliant textiles, another core competence of Heimbach Specialities.

Dr Kaldenhoff

That's correct. We have many years of experience in this area and offer tailor-made belt solutions for a wide application spectrum. For example, our belts for the baking industry must be able to absorb a certain amount of humidity and pieces of dough must be easy to remove from the belt surface. Moreover, the belts must permit easy cleaning and seams and edges must be very wear-resistant. Of course we conform to the latest EU standards and for some products even the American FDA specifications. And to make the connection to the paper industry: food-safe packaging, minimising mineral oil migration, barrier layers – these are topics that will keep us even busier in the future.



Protective cover for lifting ropes

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What new products or application fields are you focusing on at your Belgian site?

Dr Kaldenhoff

Amongst other things we are very active in the timber-processing industry. As I said earlier, many products are not so much new inventions as further development of established products. So at the moment we are developing optimised press pads for the manufacture of new, particularly durable compact boards. In addition we are working on innovative process technologies for applying coating to conveyor belts that must withstand strong mechanical pressures during use (such as die cutting belts).

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Let's take a look at the other sites of your Technical Textiles business area. Is each company a specialist on its own?

Dr Kaldenhoff

Yes, very much so. And here the overall strength and wide field of products and services under the Heimbach umbrella become obvious. I've already spoken about the core competence at the Belgium site.

In England we produce predominantly heavy duty multi-layer fabrics, heavy duty belts, and textile protective sleeves for lifting ropes and slings. In Italy we specialise in felts with highly marking-resistant surfaces, in silicone-coated or – impregnated felts and belts that can be produced with a polished surface if required. Endless felts with very small circumferences (diameters down to approx. 10cm) can also be produced. The companies that operate within the Technical Textile business area work independently, with their own products, in established markets and at the same time they benefit from the effectiveness of the whole group. In some areas a common distribution network is used worldwide. It is a clear advantage that our group is highly versatile, and that it employs a variety of technologies, collaborating with experts that possess great know-how. This is why we are able to react to market developments quickly and flexibly.

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Dr Kaldenhoff, to bring our interview to a close, a question as to your hopes for the next few years.

Dr Kaldenhoff

The market for technical textiles is growing and offers great opportunities. We, too, want to keep growing. With our technical textiles we specialise in niches and we will continue our intensive search for new applications and cooperation partners who complement our areas of activity in a meaningful way. The demands placed on us by the various industries that we serve are in part similar and sometimes even the same. Often it is a case of transportation, dewatering or drying of materials. And this is where our motivated team comes in!



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