

A Hop across the Herring-Pond: IFAM goes USA

Première: a certifying training course on adhesive bonding technology takes place in the United States for the first time

IFAM goes USA! As the trainers at the Fraunhofer-Institute for Manufacturing and Advanced Materials (IFAM) in Bremen are quick to point out, there is a lot to learn about the subject of adhesive bonding technology. For more than ten years now the Fraunhofer Institute, European leader in this field, has been engaged in pioneer work, developing and delivering training courses on the subject. Over the past decade, the Fraunhofer-IFAM has successfully passed on its know-how concerning the subject of joining engineering to more than 2,000 adhesive bonding workers, specialists and engineers in industry via training courses lasting from between one to eight weeks. Now for the first time one of these courses has been held in the USA: In Spartanburg (South Carolina), where the BMW car manufacturer has set up its largest plant on the American continent, 15 participants successfully completed a three-week course leading to the qualification DVS-EWF adhesive specialist. The US project received enthusiastic support from the *Industrieverband Klebstoffe* (federation of industries involved in adhesive bonding technology).

Back in the early nineties of the last century it was already clear to the Fraunhofer-IFAM that a prerequisite to successfully serving the market for high-tech adhesives was to provide a sound training in the subject. So it was decided to initiate a programme of supra-company training courses to qualify the personnel working with the new technology. It was conceived along the lines of previous training programmes for welding technology – since in earlier years the example of welding had illustrated in an exemplary way how a new technology could be successfully introduced: on the one hand via cross-referencing research, development, norms and standardisation, and on the other hand by means of supra-company training programmes for personnel and enterprises alike. By way of providing training in the fundamentals of adhesive bonding to the



industrial sector, the Fraunhofer-IFAM has made an important contribution towards ensuring that such high standards of quality in the field of adhesive bonding are today upheld throughout Europe.

Now they have succeeded in hopping across the great "herring-pond" to America. "In the past, we Europeans learned a great deal from the Americans about how to handle new technologies – on the subject of adhesive bonding we are now able to pay back some of that know-how", says Professor Andreas Groß, leader of the Adhesive Technology Center at the Fraunhofer-IFAM. Together with his colleague, Dr. Dirk Niermann, he spent the three weeks in Spartanburg in an atmosphere of intense concentration, always in the midst of what was going on – "You see, it simply is not enough just to translate our training materials on the subject, well-proven in Germany and other European countries, into good English", explains Niermann following the 21 days in South Carolina. "For

this course we also had to take into consideration, more so than in Germany, the differences between the participants attending the course with regard to previous knowledge, learning cultures, and the way problems are tackled. Along with US citizens, BMW had also mobilised staff from South Africa and Great Britain to attend the course."

The training course in Spartanburg closes a gap

The training course culminating in the qualification to Adhesive Specialist was conceived in close collaboration with BMW, which produces the X 5 and Z 4 models for the US market in Spartanburg. BMW has long implemented the advantages of high-tech adhesives in their European manufacturing plants – and subsequently arranged for large numbers of employees to be trained as adhesive bonding workers, specialists and engineers, either in Bremen or in in-house seminars at its various production locations. "BMW naturally wishes to ensure such high quality manufacturing levels at its American plant, too. Since the staff members there have not had so much experience with adhesive bonding as their counterparts in Europe, the in-house training course for Adhesive Specialists is intended to close this gap", Dipl.-Ing. Bernd Maurer (BMW) explains the background. Experienced personnel working in the bodysell shop at the Spartanburg plant, who being from Germany were already familiar with the quality of the certifying training courses run by IFAM, provided the initiative for the in-house course which was held in the southern US state.

"Naturally, before we left Bremen we had already put a lot of effort into preparation for the course, which was new territory for us, too – we had to learn up on the correct English terminology, for instance, and sensitize ourselves to the other culture", relates Dirk Niermann. On arrival, though, things went even more smoothly than expected: the "exceptionally harmonious group" set about learning with a will, but still managed to have fun. "Some of the participants had originally planned to see something of the surrounding countryside,

but they soon dropped that idea in favour of swotting for the examination that took place at the end of the three weeks", Niermann recalls with obvious satisfaction. But the slog was worthwhile: the 15 participants – staff in the bodysell shop and sheet metal shop at BMW as well as staff from supplier companies – all passed without a hitch. "It is, though, somewhat amusing to think that the American staff members are now also able to call themselves 'European Adhesive Specialist'", Andreas Groß pinpoints the uniqueness of the course.

Reporting on the training première

BMW itself has an excellent internal communications system, so the première of the "extra-European" training programme on adhesive bonding was sure to receive adequate coverage. Both the internal newspapers as well as BMW's own television channel brought coverage of the hitherto unique training course that was held at the US plant. "The world première of the adhesive bonding course according to standard norms in the USA was also very well received at the Munich headquarters", says Andreas Groß. The partner, BMW, supported the course to the hilt: "We were given free run of laboratories and equipment, receiving all the help we needed from

everyone concerned. This translated into an optimal learning experience for the participants." As of 2006 – both in the USA as well as in Germany – each year at least one English-language training course will be held that leads to the qualification Adhesive Bonding Engineer (eight weeks) and Adhesive Specialist (three weeks). The Industrieverband Klebstoffe assists the Fraunhofer-IFAM greatly in its "hop across the herring-pond". "We invest about one third of our entire annual budget in this project – that amounts to a not inconsiderable six-figure sum," says General Manager Ansgar van Halteren. "Years of experience have taught us that training is the key that opens the door to qualified market extension. And for qualified products you need qualified people." Van Halteren knows the state of the art. Stringent quality requirements apply to welding, for instance: "Neither in the USA, nor in Europe is it possible to get a weld seam today without an authorised, well-trained skilled welder." Compared to welding, adhesive bonding is still in its infancy when it comes to the development and application of norms. Van Halteren: "That is why our federation so wholeheartedly supports the development of similarly high standards as for welding, in order to establish high quality levels in high-tech adhesive technology."

Internationalisation of IFAM course content an ideal approach

It is the intention of Industrieverband Klebstoffe to support training courses that are designed to qualify workforce in the adhesive bonding industry in the USA. It does so by promoting the use of adhesives via activities such as public relations, the introduction of norms and supporting qualifying training programmes. According to the federation's General Manager, "The internationalisation of content common to proven training courses held across Europe under the auspices of the Fraunhofer-IFAM is in our view an ideal approach. This makes us pacesetter in the USA. We can well imagine that one day our American colleagues will want to take over these training courses themselves – on a licensing basis, perhaps. The maintenance of standards, though, should remain under the control of IFAM and the Industrieverband Klebstoffe." And this may not have exhausted the possibilities: "We live in a global community with global markets. Everywhere where adhesive bonding is structurally applied and high-tech applications are developed there will be a real need for such training measures. I believe that one day this will be the case in Asia, too." ■