

LUFTHANSA TECHNIK INTERCOAT

With dental precision

3,400 repairs in 2008 / Often better than a new part

With an air of concentration, Beate Bormann picks up a little of the dark grey compound from a small container. In her left hand, which is covered by a thick protective glove, she holds a hydraulic component from the landing gear of a Boeing 737. Carefully she applies the material to the surface of the component – the thin coating has to be spread evenly and without any air pockets.

Beate Bormann works at Lufthansa Technik Intercoat in Kaltenkirchen, near Hamburg. The joint venture company between Lufthansa Technik and the Interturbine Group specializes in the repair of components using the Advanced Epoxy Coating Process. The dark grey material that she is using for the repair is the patented epoxy resin material, Interfill®.

The workstations of Beate Bormann and her colleagues, which feature not only several spatulas of different sizes and shapes but also a small mirror, remind one more of a dental laboratory than a repair workshop. "I am a trained dental technician," says

Beate Bormann. "In my work here I can use the skills I acquired for my trade." These skills are above all a steady hand, an eye for detail and dexterity. Lufthansa Technik Intercoat's workforce of 31 currently includes two trained dental technicians. Their trade is a perfect fit for the process, which is largely performed by hand: every component is handled individually.

Interfill® can be used to repair different kinds of surface damage.

Components which normally have to be scrapped can be resuscitated using this process. The range of components handled has risen from 140 in 2001 to over 400 today. "At the beginning around 75 percent of the parts we handled came from the engine area, but now we deal with parts from virtually anywhere on the aircraft," says Sebastian David, Sales Manager of Lufthansa Technik Intercoat. Whereas in 2001 Lufthansa Technik Intercoat repaired 1,470 parts, seven years later in 2008 over 3,400 parts passed through the shop. And the potential is still a long way from being exhausted. "Interfill® can be used virtually anywhere where there are signs of abrasion and wear," explains



Burckhard Schneider (left) and Dietrich Koch, both General Managers of Lufthansa Technik Intercoat.

Dietrich Koch, also General Manager at Lufthansa Technik Intercoat.

Outside the area of aviation, there are plenty of other potential applications for the epoxy coating process. A lot of industrial components can be repaired with the process. Thus, for example, Deutsche Bahn was one of the company's 65 customers in 2008. "Our focus for the future will be on industrial components.

We also want to sell more of our existing repairs in the market and to develop new repairs," says Dietrich Koch.

The hydraulic component from the landing gear of a Boeing 737 still has some work to be done before it can be used again. Several coats of Interfill® are applied in succession. Each coat has to be individually hardened in the furnace. When the last coat of the material has been applied and baked, the component is machined back to its original dimensions. This is also precision work – a few hundredths of a millimeter can make all the difference. "We don't have any volume production here in the classic sense. We normally repair individual components or small batches, as every component has a different 'life history' behind it," says Sebastian David. When it comes to the final inspection, the component is once again measured extremely accurately to ensure that the strict tolerances have been adhered to. The repaired parts are then sent back to the respective customers all over the world – parts which are often more durable and better protected against corrosion than a new part. Some of them will doubtless find their way back to Kaltenkirchen at some point after long and heavy use, only to be repaired once more with dental precision.

General Manager Burckhard Schneider.

Lufthansa Technik Intercoat joined the development organization of Lufthansa Technik in 2008. Its engineers are constantly developing repairs for new components. The potential cost saving to the customer is considerable: to repair an expensive part like a pump costs only about 20 percent of the price of an OEM part. But the cost savings are not the only reason why the Interfill® process is used. "There are components that are not available on the market when they are needed. Thus, for example, we often handle Boeing 727 components for American customers," explains

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Dental technician Beate Bormann needs a steady hand, an eye for detail and dexterity for her work.



Product engineer Marc Feurle takes the measures of a train brake cylinder.



The Interfill® material has to be applied carefully – without any air pockets.