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**PRESS RELEASE**

* **BBG supplies equipment for the series production of CFRP window frames for the A350-900/-1000**
* **Second major contract from the aviation industry for fiber-reinforced plastics production lines**

*Mindelheim/Germany, 7 of july 2015.* Together with its customer, BBG, the manufacturer of molds, machinery and plants, has developed, built and now shipped an end-to-end production line for the series production of CFRP window frames for the Airbus A350. The consignee is ACE Advanced Composite Engineering GmbH, located at Immenstaad on Lake Constance, who produce components made of carbon fiber-reinforced plastics for Airbus at their production site at Hagnau/Germany. The first phase of the contract includes two BFT-C mold carrier systems (mounting dimensions of 1,000 mm x 1,000 mm) designed as a press with a clamping force of 100 t, an in-mold turning unit and a demolding unit. The delivery of another four BFT-C systems is scheduled for the near future.

Following 2012, this is already the second major contract from the aerospace industry for production lines to be used in the series production of fiber-reinforced plastics. Back then, BBG delivered an end-to-end production line for lavatory sheets to a Boeing supplier in the Philippines.

**Production line consisting of BFT-C press, in-mold turning unit and demolding unit**

An automatic mounting system is first of all used to secure the mold in the in-mold turning unit, which offers a maximum clamping force of two tons. Subsequently, the two parts of the mold are separated by being lifted in a short parallel movement and then swung open 180 degrees. The ergonomic design allows the operator to place the prepared carbon fiber preforms in the mold conveniently.

The in-mold turning unit comes with a fully insulated heat chamber with integrated heating plates so that any molds so equipped can be heated in an energy-efficient fashion. A special trolley is used to introduce the mold including the preforms into the mold carrier BFT-C, where the resin is injected and the component undergoes baking. At the end, the mold is opened in the mold carrier, and the component is handed over to the demolding unit for demolding. This unit, too, can be swung open 180 degrees so that the window frame is easy to remove.

**Supplier ACE will produce up to 80,000 CFRP window frames per year for the A350**

The window frames were originally made of aluminum but for reasons of saving weight, the material is planned to be replaced by the particularly lightweight and stable fiber-reinforced plastic. ACE put themselves forward as a supplier since the company can look back on more than three decades of experience in the development of lightweight structures and the manufacturing of CFRP components for the aerospace, automotive and machine construction industries. ACE also has a great deal of expertise in the design and production of CFRP window frames. According to the company's own information, it was important to meet the stringent geometric, mechanical and commercial requirements laid down for the Airbus A350. ACE developed the CFRP window frames with RTM technology, completed the prototype and created a concept for the series production of up to 8,000 CFRP window frames per year, for which they were awarded the contract by Airbus.

**BBG’s customers are active the world over**

BBG GmbH & Co. KG, a manufacturer of molds, machinery and plants, is a renowned specialist for the plastics-processing industry. The focus is on solutions for lightweight design, the processing of composites and the manufacturing of components made of fiber-reinforced plastics for a large number of industries. In addition to end-to-end production lines, BBG designs, develops and produces encapsulation and plastic film deep-drawing tools for the processing of a wide range of fiber-reinforced materials. This includes production processes such as LFI (Long Fiber Injection), RTM (Resin Transfer Molding), SMC (Sheet Molding Compound) or GMT (Glass Mat reinforced Thermoplastics), which are selected depending on the desired qualities of the finished products. Molds and equipment for the processing of polyurethane (PUR), PVC, TPE and other elastomers round out our offering.

BBG, the family-owned business, which is located in Mindelheim/Allgäu and is run by Hans Brandner, the managing partner, supply their products to their customers all over the world, with the Asian market playing an important role in addition to the markets in Europe and North America. With a headcount of 80, BBG generated sales to the tune of 10.6 million euros in 2014.

**Photos:**



Photo 1 (Photo: Airbus S.A.S 2015 - photo by S. Ramadier).



Photo 2 (Photo: Airbus S.A.S 2015 - photo by S. Ramadier).

Photo 1 and photo 2:

As with the A380, the window frames of the A350 were originally made of aluminum but for reasons of saving weight, the intention was to replace the material by the particularly lightweight and stable fiber-reinforced plastic. (Photos: Airbus S.A.S 2015 - photo by S. Ramadier).



Photo 3:

For the manufacturing of CFRP window frames, BBG in a first step supplies ACE with two BFT-C mold carrier systems as a press, an in-mold turning unit and a demolding unit (Photo: BBG GmbH & Co. KG).

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