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# IR booster combined with an electric hot-air oven for aircraft doors

For the construction of the aircraft doors for the new wide-body aircraft A350 XWB, Airbus relies on a vötschoven system that was designed and built by Weiss Technik GmbH, Heating Technology Product Division. Airbus Helicopters hardens components made of carbon fiber reinforced plastic (CFRP) in the facility in Donauwörth. CFRP materials are very light and yet have a high degree of rigidity. This makes them ideal for aircraft, as lighter materials help to save aviation fuel and transport more people and loads.

The preforming of CFRP materials takes place on special molds. There, the so-called prepreg is draped, secured under vacuum bagging and then compacted.

The new oven works in three phases: An IR booster system is used to preheat the component, which quickly heats the CFRP components to curing temperature. Then the component moves into the continuous oven and is cured at 140-180°C for about 30 minutes. Finally, the component travels through a cold air-cooling zone and is cooled for removal.

"Our oven system with its automation and sophisticated control system works perfectly together with the precisely controllable infrared emitters from Excelitas. The combination of technologies allows short process times and energy-efficient operation. This means that the most innovative technologies are available for the new Airbus!" says Stefan Betz, Weiss Technik GmbH, Heating Technology Product Division.

## FEATURES

- Innovative special Vötschoven oven for building the aircraft doors of the wide-body aircraft A350 XWB
- Infrared booster combined with electric hot-air oven

## TECHNICAL DATA

- Temperature in a continuous oven of 140-180 °C for approx. 30 minutes.
- Vacuum bagging ensures dimensional stability even at high temperature
- Complete automation of the curing cycle including cooling zone
- IR booster with 24 medium-wave emitters
- Total output: 82 kW, area output: 15 kW/m$^2$

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