

Press Release

Test Hangar for A380 Tests in Dresden

IABG and IMA are building a new test hangar at Dresden Airport

Dresden - After IABG mbH in Ottobrunn near Munich was awarded the contract for the fatigue life test for the new wide-bodied Airbus A380 in the autumn of last year, the company is now building, with its local sub-contractor located in Dresden, IMA, a new test hangar at Dresden Airport, which meets all the pre-requisites to be able to conduct the test in accordance with the requirements laid down by Airbus.

IABG is a worldwide leading specialist for the conduct of structural tests on aircraft. It has already tested all the predecessors of the A380 for Airbus and is currently conducting, together with IMA, the structural tests on the Airbus A340-600 in Dresden. With the construction of the new test hangar, IABG underscores its intention to be active in Dresden permanently and thus makes a further contribution to the creation of attractive jobs in the Free State of Saxony.

The principal in the construction of the building, for which the topping out ceremony was held on 15.04.2003, is I&I Hallengesellschaft, a subsidiary of IABG and IMA. The hangar construction is supported by a subsidy from the community task sponsorship programme of the State of Saxony 'Improvement of the Regional Economic Structure'.

The building's dimensions have been adapted to the dimensions of the massive test object. With an area of 4950 m², the height is 30 m. The test objects can be brought into the hangar directly from the airport limit road through a 6-wing hangar door.

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The fatigue life test on the A380

The objective of the test is to verify the fatigue life of the complete airframe for the planned service life of about 25 years. For this purpose, the loads expected for altogether 47 500 flights during service life are simulated time-accelerated within 26 months in order to substantiate the required safety as compared to the design objective of 19 000 flights. As has been used on the tests of the A340-600, a test control method newly developed by IABG is used, with which the test speed has been significantly increased and thus Airbus receives statements as quickly as possible concerning the fatigue life of the airframe.

The complete facilities consist of a comprehensive test rig on which the test frame is installed. Integrated into this is a hydraulic load unit with almost 200 cylinders. These hydraulic cylinders simulate the loads as they occur in flight operation in conjunction with a specially developed load introduction system for the test structure. The control and monitoring system of the facility comprises 250 channels. The loading of the test structure is recorded by a metrology unit, which enables, using its 7 200 channels, material expansions and pressure, temperature and deformation values to be recorded and protocolled during the course of the test.

The tests are planned to begin in November 2005. The actual test duration then follows for 380 days on a multi-shift basis, whereby the test runs 24 hours, seven days a week. It is only interrupted by regular inspections of the aircraft structure. The end of the test is expected in December 2008. The test airframe consists of the elliptical fuselage with a maximum diameter of about 8.5 meters, the two wings with a total wingspan of about 80 meters. Pylon, landing gear and empennage are simulated as equivalent structures.

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IABG is a European technical services company with about 1 000 employees and about 125 Mio. € turnover. In the defence, aerospace, IT and communications business segments, IABG offers its customers, which come from both industry and commerce and the public authority sectors, demanding technical, analytical and systems-technical solutions to their problems. IABG operates in Ottobrunn one of the three ESA-coordinated Space Test Centres and runs, via a Joint Venture the European Test Services B.V., the ESA Space Test Centre in the Netherlands. In Lathen/Emsland, IABG is the operator of the magnetic levitation test facility.