

# DENIOS-Case Study

Airbus



## Airbus depends on DENIOS expertise for its hazardous materials storage

The Airbus Finkenwerder plant stores its paints and coatings in DENIOS custom-tailored storage facilities that comply fully with government regulations. DENIOS completed the Airbus assignment to the client's complete satisfaction - on time and without a hitch.



Interior view of the walk-in F90 Fire protection container with hazardous materials work station (in the background) and exhaust-ventilated workbench with ductwork.



Hazardous materials work station with exhaust technology directing an air stream toward the suction strip on the rear wall. With approx. 0.5 m/s ventilation speed at the 400mm-high intake with the front pane closed.

### The Challenge:

Airbus, a member of the EADS Group – Europe's largest globally operating air and space group is a leading manufacturer of commercial aircraft. With orders for 1,458 aircraft in 2007 Airbus broke its previous record of 1,111 in 2005. Leading the new customers were rapidly expanding airlines as well as budget carriers. By July 2008, 198 firm orders had been placed for the celebrated A380. Airbus employs more than 58,000 workers at the company's 16 European design and production sites.

The long range finishing assembly shop for hydraulic and pneumatic equipment at the Airbus Finkenwerder site needed a paint mixing room. The design solution to be implemented had to address several critical aspects: There had to be assurance that the hazardous materials storage would comply with government regulations and that water-polluting and flammable hazardous materials (paints and coatings) would be handled in a safe manner. Moreover, the system to be installed had to come with all required approvals, since only systems with these specified approvals are assured of government agency acceptance and can obtain insurance coverage.

In addition, the Airbus specifications incorporated the requirement that the integrated solution include both F90 fire-protected storage and a hazardous materials work area with an exhaust system. Here both fire protection and ventilation technology were crucial. The hazardous materials work area had to be equipped with the comprehensive workbench exhaust system necessary to protect the workers from noxious fumes. In this connection it was important to conform to the relevant Airbus plant standards. Moreover, for work in the paint mixing room, it was necessary to achieve an air exchange rate of 10. This combination of features with its complex ductwork system presented a formidable ventilation engineering challenge due to the required air exchange rate and the addition of exhaust ventilation for the parts-cleaning immersion tank.



The walk-in F90 system with integrated hazardous materials work station and exhaust system in use. The storage unit has a T90 door with integrated F90 glazing as well as an alarm and signal lights plus a switch for illumination and a door restraint system.

### The Solution:

In winning the contract DENIOS AG scored major points with its outstanding core competency in the areas of fire protection and ventilation. Finding a single producer capable of meeting Airbus's specifications and providing a total turn-key solution played a decisive role in their decision. In addition, Airbus required competent total project management – from the analysis of the specifications to plant approval and government agency acceptance. DENIOS met this performance profile one hundred percent, even earning a bonus for doing so. The designers at DENIOS recommended a walk-in F90 system with an integrated work bench, including an exhaust system. This involved a fire-protection container of the BMC-K840X type with F90 fire protection on all sides, both inside and out. Equipment features included, among other things, ventilation, ventilation monitoring, a door restraint system, a malfunction reporting display and a motion detector. All components

were explosion-proof (EX) versions. The hazardous substance work station with a work area of 2.00 x 0.80 meters included an explosion-proof version of a Type AT-20 hazardous material detection installation.

### Result and Application:

Airbus gained a multifunctional paint mixing room that made it possible to store all hazardous materials safely and in compliance with government regulations – and which met all the company's requirements. From the time the facility was put into operation, safe operations with the paints and coatings stored there has been guaranteed for every worker. Moreover, the advantageous location of the hazardous materials storage facility has resulted in an additional benefit – efficiencies in terms of time and cost savings. In the meantime similar solutions have been placed into service at other Airbus sites.

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