

Interforge **Accumulators** are worthwhile for service

The accumulators at the Interforge press were suspected of delamination and subjected to non-destructive and destructive testing. Results: the material is heterogeneous due to the type of steel used.



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Corporate name
Interforge

Business activity
Dies for large parts in the aeronautical sector. Interforge is a subsidiary of Aubert & Duval (94%) and Snecma (6%).

Turnover
27 million euros

Workforce
250 employees

Interforge is specialised in dies for large parts in various materials (steel, aluminium, titanium, etc.) for the aeronautical industry, and owns the most powerful press in Europe (65,000 tons). The potential need to delaminate the body of its 20 hydraulic accumulators was highlighted during the ten-year inspection in 2013. The Regional directorate for the environment, planning and housing (DREAL) is calling for in-depth investigations, subject to site closure.

"We contacted Cetim in order to carry out more in-depth investigations as the Centre possesses expertise recognised by the authority", stated

Michael Thooris, Interforge maintenance methods technician. The authority, company and Cetim are aware of the stakes for the aeronautical industry, at a time when the Airbus order book is full, as well as for jobs, and will work together.

Calculating residual life cycle

The first stage involved creating a grid using mono-element ultrasonic techniques for the accumulators, which have a height of 12 metres and a diameter of 1.5 metres. This revealed a certain number of uncertain zones. This stage was followed by a multi-element ultrasonic inspection which

specified the thickness of the material and provided a more precise image. Finally, the spreading of any defects was tracked using acoustic emission analysis.

In fact, non-destructive testing was inconclusive. This testing did however reveal the varying condition of the material for equipment. This led to the idea that the indications detected for the material could be due to the metallurgy of the steel. To confirm this point, Interforge sacrificed one of its accumulators, which was then subjected to the methodological characterisation studies of Cetim. The assumed "empty patches" in the material are not in fact empty, and were caused by the type of steel. The residual life cycle of the accumulator was also calculated by simulation. The gigantic Interforge press is good for another 80 years of service.

Cetim's asset

Cetim can carry out a comprehensive analysis of material, up to the calculation of the residual life cycle by simulation, thanks to its expertise in destructive and non-destructive testing.

