

HFQ® News



top stories

Website launched

Delighted to launch our new website, giving more expertise, information and insight to visitors.

Capability demo

Success for premium vehicle volumes and associated manufacturing rates.

Exhibiting our seating

Next generation of seating to be showcased in Hamburg at this year's Aircraft Interiors Expo.

NEW WEBSITE IS LIVE

Introducing the new HFQ® Technology website, your go-to destination for everything related to the innovative Hot Form Quenching process. This comprehensive platform seamlessly combines the previously separate Impression Technologies and HFQ® Technology websites, providing a centralised hub where users can access all the information they need.

The new site boasts a user-friendly interface, simplified navigation, and an extensive knowledge base. Explore in-depth insights, connect with our ever-growing partner network, and stay up-to-date with the latest advancements in HFQ® Technology. Visit hfqtechnology.com to explore the full capabilities of this transformative process.



hfqtechnology.com

Production Capability Demo



HFQ® produced parts from validation tool

High-volume manufacturing

To date, high-strength alloys formed using HFQ® Technology for aluminium hot forming have been successfully introduced for premium vehicle volumes and associated manufacturing rates.

As an example, HFQ® parts can be found on an Aston Martin DBX or Lucid Air. To demonstrate the high-volume manufacturing capability of the HFQ® process, Impression Technologies collaborated with Weba Werkzeugbau Betriebs GmbH and ITL's

HFQ®-accredited production partner fischer group to manufacture a high-performance validation tool made to ITL's latest specification. Controlled trials were successfully completed using fischer's state-of-the-art HFQ® facility in Achern, Germany.

Trials completed

The trials with high-strength 6XXX alloy delivered in F-temper condition were completed in February 2024. The first

trial was carried out at 23 seconds cycle time, showcasing the high-rate capability and then a full capability run at rate of 300 parts were made to represent the high-volume conditions. The tool achieved 5-second quenching time with a part exit temperature of ~50°C. This demonstrated that the HFQ® process for hot forming, unconstrained by oven capacity and automation, could achieve cycle times as good as press-hardened steel (i.e. <15s). Mechanical and dimensional tests confirm that the parts exceeded the demanding specification targets with geometrical tolerance within +/- 0.3mm.



High volume HFQ® validation tool in the fischer press

This validation trial further demonstrates that the HFQ® process is ready and competitive for high-volume automotive applications, including with F-temper alloys. Moreover, further cycle time improvements have been identified alongside further innovations in advanced process control and monitoring.

ITL and fischer are now engaged with leading global OEMs on the application of HFQ® for electric vehicle upper structures, battery trays/lids and closures.

Aircraft EXPO[®]
Interiors

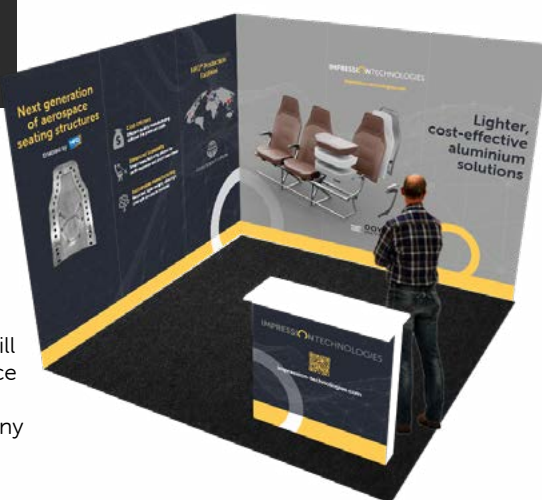
STAND NO.
6A124

Next generation of seating to be showcased in Hamburg

We are delighted to be exhibiting at this year's Aircraft Interiors Expo in Hamburg. On our stand, you can discover the Hot Form Quench process and learn how efficient manufacturing can significantly help you reduce the cost of aviation seating structures using our innovative HFQ[®] Technology. This Expo is also an opportunity to meet our Technical

Experts Phil Parry, Ed Cooper, John Sellors and Robert Stoff-Riegel. They will be on hand to provide insights, guidance and bespoke solutions tailored to your aerospace seating needs, and answer any questions you may have on the day.

This is a great opportunity at the show to learn, explore and engage with us.



CAD render of
exhibition stand design

We're talking high fidelity forming at AEROMAT2024



Dr Mohamed Mohamed
Head of Simulation and
Modelling Technology

In March, our Head of Simulation and Modelling Technology, Dr Mohamed Mohamed, presented 'Simulation Accuracy of Hot Form Quench (HFQ[®]) Process' at this year's AEROMAT2024 in Charlotte, North Carolina, USA.

It was an opportunity to provide details of recent advances in high fidelity forming simulation in 2xxx, 6xxx and 7xxx alloys

for cost-effective and high tolerance aerospace structures. This occasion was a great platform for Dr Mohamed Mohamed to showcase the ITL expertise and processes of HFQ[®] to a dedicated sector and audience.



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