

Heat Treatment : Top Aerospace OEM benefits from the sustainable Supply chain and Services

QH AQUAQUENCH™ 251

Background

One of the leading aerospace OEMs renowned for its modern plants specializing in aerostructures faces the rigorous demands of producing high-quality aluminum structures for aircraft. Located in France, this plant is pivotal in the heat treatment processes for fuselages and other critical aircraft architecture, serving its brand and other significant players in the aerospace industry.

The Challenge

The facility relied on a traditional polymer-based quenching solution, which is essential for minimizing distortions and enhancing the mechanical properties of aluminum structures during heat treatment. The OEM was looking for a supplier with technical expertise and a sustainable, trusted supply chain, as production was risking delays and reduced efficacy in treating aerospace structures due to the lack of suitable quenching means. Moreover, the OEM manually handled all records and analyses of their process fluids, which the current supplier neglected.

The Solution

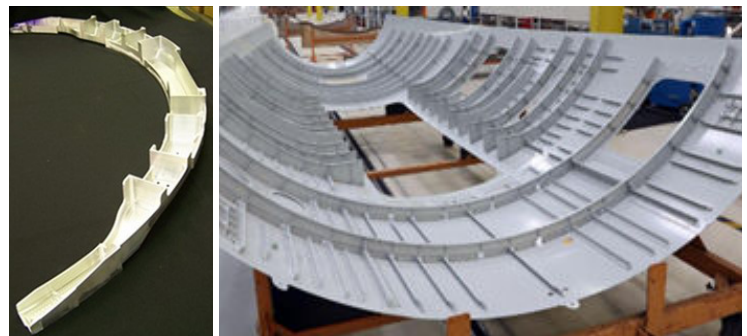
In response to this challenge, Quaker Houghton ensured continuity and sustainability in the plant's operations with a cutting-edge solution, QH AQUAQUENCH™ 251, a versatile water soluble quenchant used for heat treating aluminum alloys. This polymer solution, long recognized by the aerospace industry and approved by AMS 3025, was introduced into a 35m³ tank, seamlessly integrating into the existing infrastructure. The Quaker Houghton team also introduced QH FLUIDTREND™ software, where every lab sample is recorded, giving both Quaker Houghton and the OEM data on the process fluid performance. The high compatibility and performance of QH AQUAQUENCH™ 251 prompted the plant to invest in an additional 37m³ quenching tank to

The Benefits

- **Enhanced Mechanical Properties:** The new quenching solution offers superior quality in treating aluminum, maintaining the high standards required for aerospace components.
- **Operational Continuity:** AQUAQUENCH™ ensured no disruptions in the plant's operations, which is crucial for meeting the tight schedules of aerospace manufacturing.
- **Sustainable and reliable supply chain:** production continues without compromising safety or performance.
- **Traceability:** Documenting all lab samples and analysis in QH FLUIDTREND™, providing product monitoring, enabling reporting and traceability. This solution fulfills the rigorous standards demanded by aerospace clients for every component produced.

Conclusion

Quaker Houghton's timely intervention and the successful integration of QH AQUAQUENCH™ 251 exemplify how innovative solutions can address industry-specific challenges, ensuring operational excellence and paving the way for future advancements in aerospace manufacturing. This partnership not only sustained the manufacturer's legacy of quality but also fortified its capability to serve as a key player in the global aerospace market.



Heat treated aluminium parts

