

CERTAS LUBRICANT SOLUTIONS GAINS BAE SYSTEMS CASTROL PRODUCT APPROVAL

ISSUE:

A review of the metalworking fluids used across an aerospace machining facility supporting BAE Systems identified a desire to seek improvements in fluid performance, product consolidation, and achieve greater efficiency and sustainability gains. This initiated a search for a cutting fluid that could support modern aerospace manufacturing demands while also addressing compliance with REACH and other regulations.

Castrol Hysol SL 45 XBB, already approved by major aerospace manufacturers such as Airbus, Boeing, Bombardier, and Safran, was identified as a strong candidate due to its proven compatibility with aerospace applications and its high-performance, boron- and formaldehyde-free formulation.

SOLUTION:

Certas Lubricant Solutions proposed Castrol Hysol SL 45 XBB as the replacement fluid and led the full product qualification process in collaboration with BAE Systems. The process began in November 2023, with multiple phases requiring significant technical expertise and logistical coordination. Certas' ability to deliver end-to-end support became a key differentiator in this process.

Certas onboarded two NADCAP-approved laboratories, Aerofin Laboratories and Inflight Engineering Services to execute the rigorous testing procedures required under BAE's AM30-01-00 Issue 3, Table 2. Qualification method.

TESTING INCLUDED:

• Inter-granular Attack and End Grain Pitting (Section 4.3.1)

Conducted per ASTM F2111 at Aerofin Laboratories on aluminium substrates to confirm the fluid's compatibility and inertness with aerospace alloys

• Corrosion of Metallic Materials (Section 4.3.2)

Test panels of aluminium 2024 T3/T4, 7075 T6, titanium (EN3456), and aerospace-grade steels were exposed to the fluid at minimum and maximum recommended concentrations to assess staining or corrosion potential. Conducted at Aerofin

• Paint Adhesion Trials (Section 4.3.3)

Performed at Inflight Engineering Services, this test involved soaking 2024 T3 aluminium panels in fluid, drying, then painting to R40-6978 specification. Tape adhesion tests were conducted per BAE standards R05-6121 and R05-6257. This validated that the fluid did not interfere with downstream paint processes

Certas managed all test logistics, sourced materials, and provided technical oversight throughout. Castrol compiled data to support Table 1, while Certas produced a 25-page technical report for Table 2, documenting the test protocols and results.

Certas visited the BAE Systems team at Samlesbury Aerodrome in April 2024, strengthening collaboration and alignment throughout the final approval phases.

OUTCOME:

On 21st March 2025, Castrol Hysol SL 45 XBB was officially added to BAE's AM00-00-01 approved product list. This achievement further reinforces the performance reliability of the Castrol XBB range and showcases Certas' unique capability to manage complex aerospace fluid approvals from start to finish.

Through a combination of Castrol's advanced fluid technology and Certas' skilled, consultative technical team, the process was completed with thorough attention to quality, compliance, and customer requirements highlighting a clear differentiator in an industry where few distributors can offer such comprehensive support.

