

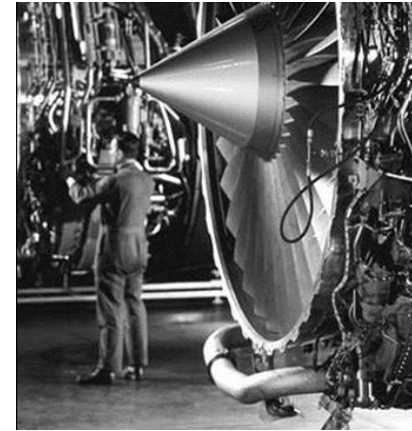
Success Against Major Competitors

AEROSPACE MANUFACTURING (USA)

Multiple Parts and Metals

Castrol Hysol® SL 45 XBB

SAVINGS: 73% Total Cost Reduction (Preliminary)



The Situation

A major aerospace and bearing manufacturer conducted a year-long trial of cutting fluids in order to identify one that would best improve their total operating costs. The minimum fluid requirements were: aerospace approval, global availability, and semi-synthetic chemistry.

The suppliers chosen by the customer were: Castrol, Blaser, Chemetall, Fuchs, and Qualichem. Machined materials included: Inconel, stainless steel, Stellite, titanium, tungsten, and aerospace aluminum.

Pre-Trial Setup

- The customer implemented fluid-related best practices with their current coolant
- Reduced costs by about 45% through this process
- This established the baseline for all other fluids to be tested

Hysol SL 45 XBB Results

- Average of \$0.21 per production hour per material
- **73% total cost reduction**
- Ran the lowest concentration of all fluids: 4% on aerospace aluminum and 8 - 10% on all other materials

The Solution

- Castrol surveyed the plant and determined that Hysol SL 45 XBB would be the best choice for their process.
- Castrol provided a fluid control plan in order to monitor and maintain the coolant systems.
- Concentrate usage was monitored and optimized by Castrol and the customer throughout the trial period.
- Machining operations on titanium, Inconel, tungsten, and Stellite were closely monitored for improvements in part quality and tool life.

- **Eliminated dermatitis concerns**
- **About 35% tool life improvement**
- **53% reduction in fluid usage**

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Recommendations

Castrol engineering recommended the use of Hysol SL 45 XBB as a total shop solution.

Proper fluid choice and maintenance was key to achieve the highest machining and tool performance at the lowest possible operating cost. This has been successful through customer support and Castrol interactions.

Conclusion

Hysol SL 45 XBB has delivered value across the board by eliminating dermatitis concerns, biological odors, and additive usage, while improving tool life and reducing fluid usage rates.

Preliminary cost calculations from the customer equal a 73% reduction in total operating cost! This easily eclipsed the next best competitor.



OTHER POTENTIAL APPLICATIONS

The high performance of Hysol SL 45 XBB makes it an excellent choice for grinding, drilling, tapping, milling, honing, reaming, and broaching on a wide variety of metals. In addition, the fluid has multiple approvals from major aerospace manufacturers.