

# Alusol AU 70 Increases Sump and Tool Life

## MACHINERY MANUFACTURING (USA)

Hand Tool Manufacturing

Castrol Alusol® AU 70

**ANNUAL SAVINGS: \$26,875**



### THE SITUATION

A major hand tool manufacturer was machining precise hand tools with multiple coolants. One of the coolants contained chlorine which the manufacturer preferred not to use. The chlorinated fluid was used in the most difficult single point threading operations.

Castrol was challenged to implement a single, chlorine-free coolant that could handle the many difficult machining operations.

### BEFORE

- Multiple local blender coolants
- Chlorine containing coolant
- High usage
- Poor sump life, **dumped every 3-4 months**
- Low tool life (**200 parts/tool**)

### AFTER

- Single coolant, Alusol AU 70 high performance semi-synthetic
- No chlorine
- Reduced usage by over 50%
- Sump life **increased to 1 year**
- Doubled tool life (**400 parts/tool**)

### THE SOLUTION

- A high performance fluid was needed that could be used in multiple machining operations.
- The Alusol AU 70 works well in multiple operations on the hardened 4140 steel.
- In single point threading, a 7% concentration of Alusol AU 70 outperformed the chlorinated coolant by doubling the tool life.
- The current coolants in use would go rancid in a very short period of time, requiring sumps to be dumped every 3-4 months.
- Alusol AU 70 has a very good bio-resistant package and can run in the sumps for up to 1 year or more.
- The Alusol AU 70 alone replaced multiple coolants, eliminating the inefficiencies and potential errors of handling multiple fluids.

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## RECOMMENDATIONS

Alusol AU 70 is a high performance coolant that works well in multiple machining operations. In this case, the customer is doing milling, turning, drilling, single point threading and broaching. The hard metal used in hand tools is particularly difficult to machine and can cause poor tool life without the proper coolant.

## CONCLUSION

Alusol AU 70 works well in multiple machining operations on 4140 steel. In the most difficult operation, AU 70 performed excellent without the need for chlorine additives that can be deemed a health risk.

**The total annual savings achieved due to extended sump life and longer tool life was \$26,875.**



## OTHER POTENTIAL APPLICATIONS

Alusol AU 70 is one of Castrol's highest performing metalworking fluids. It works well on a variety of metals and operations, often allowing for consolidation of fluids and extended tool life. In addition, AU 70 meets the most stringent health & safety requirements (free of chlorine, boron, and secondary amines).

Typical parts produced at this facility

