

Alusol AU 68 Replaces Straight Oil

MACHINERY MANUFACTURING (USA)

Firearms Manufacturing

Castrol Alusol® AU 68

ANNUAL SAVINGS: \$34,190



THE SITUATION

A leading firearms manufacturer was using a chlorinated neat oil for machining their revolver cylinders. The oil was troublesome to manage, due to slippery parts, odors, and a solvent cleaning step required. Water-based fluids were desired to test.

Exceptional finishes, good tool life, and low foaming at 1,000 psi were required. The material (410 stainless steel) and operations (drilling, reaming, and roller burnishing) were very challenging for a water-based fluid, so the customer was skeptical that anything other than oil would work.

BEFORE

- Chlorinated neat oil
- Good part finish and tool life
- Slippery parts, odors, and solvent cleaning required
- Operator acceptance was low
- Usage of 20 drums per year

AFTER

- Alusol AU 68 semi-synthetic
- Good part finish and tool life
- Improved part handling and better odor
- Solvent washing eliminated (\$22,590 in savings)
- Operator acceptance is high
- Usage of 4 drums per year (\$11,600 in savings)

THE SOLUTION

- Alusol AU 68 was initially tested in the drilling and reaming operations. The customer was watching closely, as the revolver cylinders must have a mirror-finish.
- Due to good performance in this initial test, Alusol AU 68 was chosen for testing in the roller burnishing operation.
- The roller burnishing operation required high levels of lubricity to be successful.
- Alusol AU 68 did outstanding in roller burnishing, giving the customer confidence to use it in other challenging operations.
- **Excellent finishes and easier cleaning, as well as better operator acceptance has made Alusol AU 68 a winner in this application.**

• **Versatility of Alusol AU 68 permits use in a wide range of applications.**

• **Outstanding performance gave the customer the confidence they could accomplish challenging operations with the right water-soluble coolant.**

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RECOMMENDATIONS

Alusol AU 68 shows leading performance on many workpiece materials, including aluminum, carbon & alloy steel, and 400 series stainless steels.

When a fluid is needed for high pressure delivery systems while providing exceptional finish and quality, Alusol AU 68 is the premier choice.

Throughout the testing at this plant, there were no issues of coolant odor or bacterial growth. Concentrations of 10% were used to achieve the finishes demanded by the customer specifications.

CONCLUSION

This customer has very demanding production schedules, with business growth in their market setting new records. They need reliable fluids that offer low total costs. Alusol AU 68 has lived up to the challenge, helping them reduce costs and eliminate scrap and rework.

The customer was very impressed with the success when using a water-based coolant in roller burnishing that previously was only possible with a chlorinated neat oil.

**"No need to solvent dip these parts. I simply blow them off with air, saving time and money. It's safer too."
– Machine Operator**



OTHER POTENTIAL APPLICATIONS

Alusol AU 68 is an obvious choice for operations that need high lubricity for excellent finishes and superior tool life. The fluid cleanliness makes it a good choice for honing, reaming, and other precision finish-sensitive operations.

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