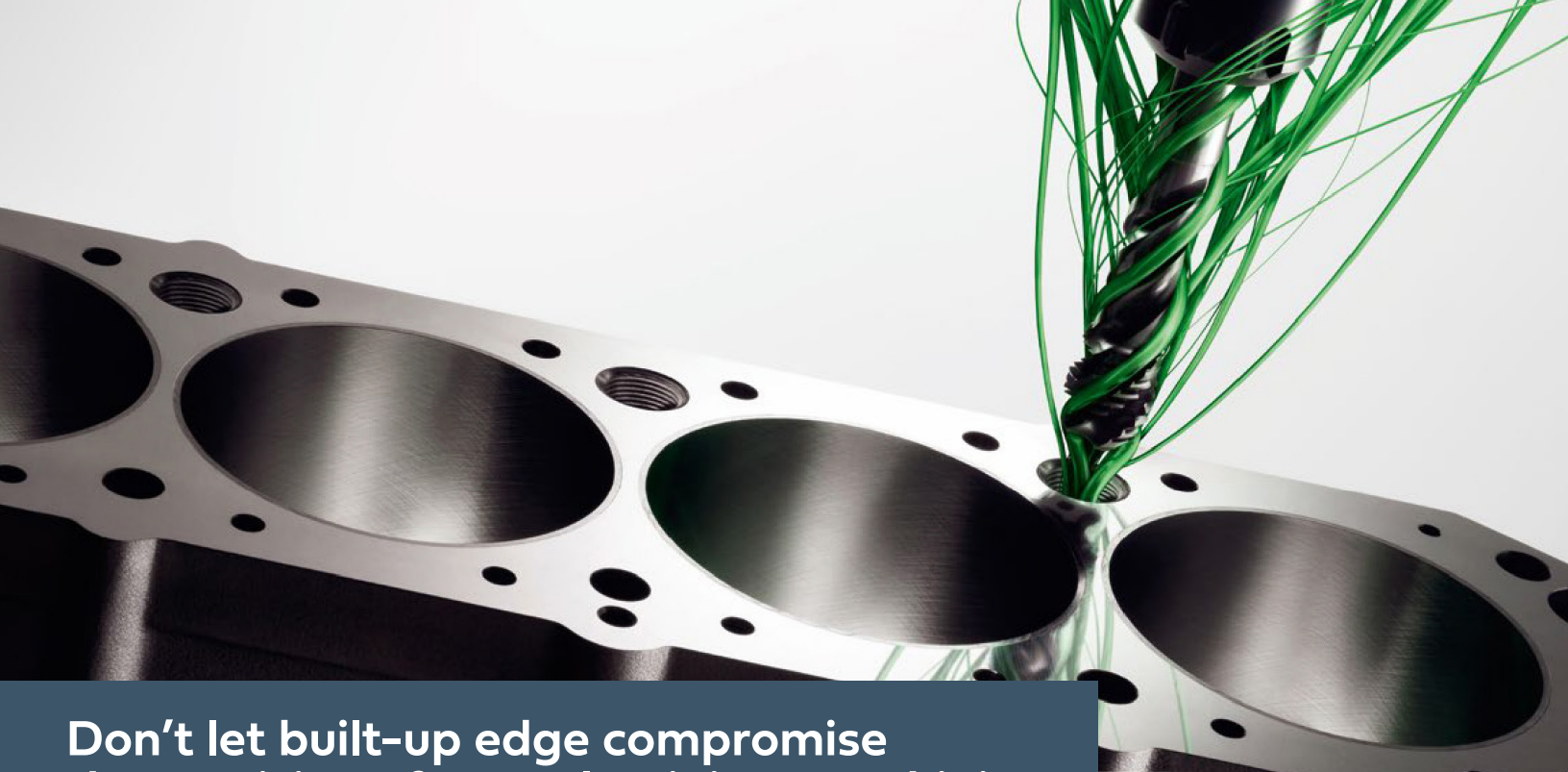




# Precision performance in aluminium machining

[castrol.com/industrial-us](https://castrol.com/industrial-us)





**Don't let built-up edge compromise the precision of your aluminium machining**



## **Castrol® Alusol® makes precision machining a reality from the first cut**

The demand for lighter products from automotive, machinery and fabricated-metal- goods businesses is driving the need for precision-made aluminium components. Today's component manufacturers have to be creative when it comes to machining aluminium to meet complex designs and tight tolerances.

This can be a challenge because aluminium can adhere to tool surfaces, creating a built-up edge. This changes the tool shape and reduces dimensional control in the machining process. The result: rejected components, wastage and rework.

Castrol® Alusol® has been formulated to help address these challenges. Its outstanding properties deliver essential lubrication to the point of cut, which helps reduce built-up edge on the tool. So no matter how creative or progressive your ambitions for aluminium components are, Castrol® Alusol® helps you achieve them by making precision machining a reality from the first cut.

### **The Castrol® Alusol® product range has been formulated to:**

- Provide essential lubrication to cutting processes to improve machinability.
- Generate a high-quality surface finish and reduce staining.
- Help lower costs by extending fluid life and reducing downtime for maintenance.



# Make precision machining a reality across a range of applications

Castrol® Alusol® is a comprehensive range of soluble and semi-soluble metalworking fluids. Our Liquid Engineers have applied a deep understanding of the demands of machining aluminium alloys to create a series of product variants designed to meet different machining requirements.

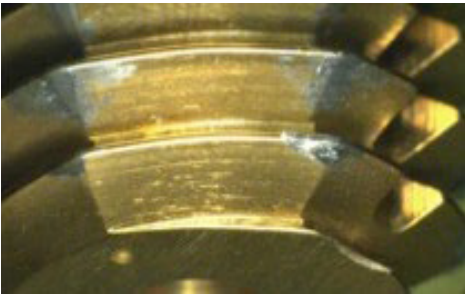
The Castrol® Alusol® range includes products\* that are:

- Formulated to provide superior performance on automotive aluminium.
- Inherently resistant to microbial growth for long-lasting effective performance.
- Specifically created for multiple applications to enable product consolidation.

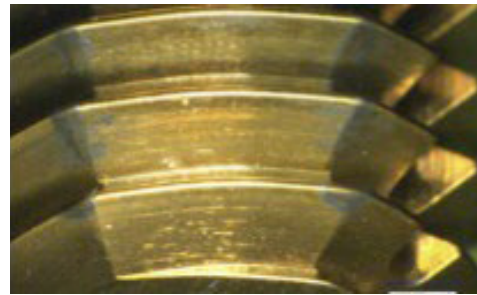
\* Not all products are available in all locations. Please consult your Castrol representative or refer to the Lubricant Oracle at [castrol.com](http://castrol.com).

## ↑↑↑ Proven benefits delivered by the Castrol® Alusol® range

### Precision performance

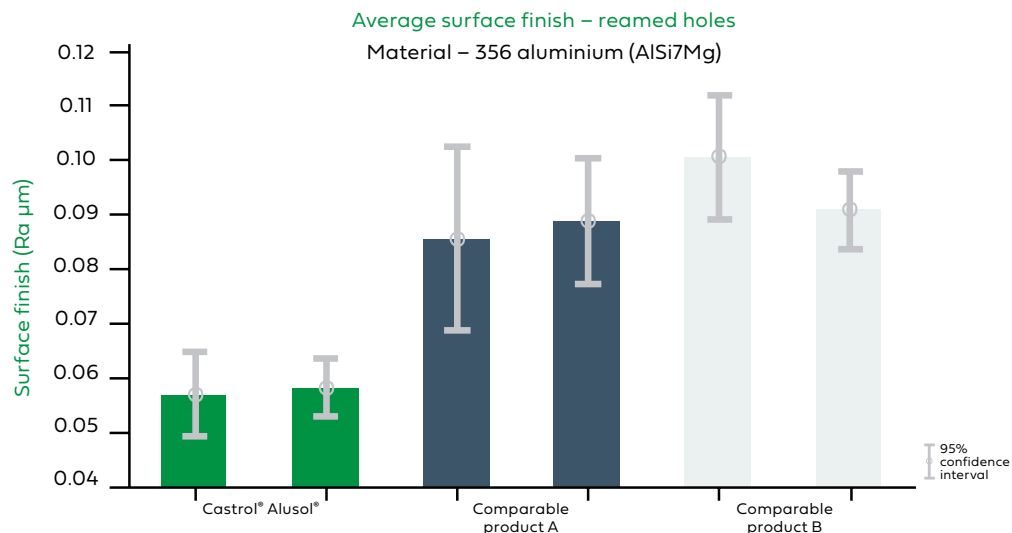


Aluminium build-up on the tool edge changes the shape of the tool and reduces surface-finish quality



Castrol® Alusol® minimises metal build-up on the tool

Tests show that Castrol® Alusol® can produce a consistently higher-quality surface finish versus comparable metalworking fluids.



## Increased productivity, reduced cost

The images below show the difference between good and poor lubrication on automotive-grade cast aluminium. You can see the vast improvements in surface finish that can be achieved using a Castrol® Alusol® product.



Good lubrication from Castrol® Alusol® produces a high-quality finish, 0.1 Ra (Roughness average) for precision components



Poor lubrication reduces surface finish, 0.8 Ra, and can lead to parts being rejected

- Switching to a Castrol® Alusol® product helped two aluminium component manufacturers reduce the concentration of coolant used from 10% to 7% and from 14% to 8% respectively.
- An automotive brakes manufacturer reduced its spend on anti-foam additives by switching to a Castrol® Alusol® product recommended specifically to meet the company's foaming issue.

### **Please contact us today for further information.**

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