

CASE STUDY



HONING TRANSMISSION GEAR WHEELS

QUAKERCUT® 005 XP

CHALLENGES

A major global European manufacturer of engines and transmissions to the automotive industry was investigating solutions for their transmission gear honing operation. The customer was looking to replace the competitive honing fluid and approached Quaker specifically to:

- » Introduce a machining fluid that would reduce their environmental footprint
- » Decrease machining oil consumption
- » Reduce overall costs

THE SOLUTION

Quaker Chemical Corporation (“Quaker”) reviewed the customer’s concerns and recommended QUAKERCUT® 005 XP, a low viscosity, high performance neat cutting oil. QUAKERCUT® 005 XP was chosen as a solution to reduce the customer’s environmental footprint due to its advanced ester technology from renewable raw materials, biodegradability, high flashpoint for lower fire risk, and no labelling according to the new CLP regulation (Classification, Labelling and Packaging of chemicals).

A trial against the competitive fluid was initiated on the Nagel machines honing the inner diameter of transmission gears. Based on regular visits and excellent technical support, Quaker provided the monitoring and tracking tools for the customer. The customer was pleased with the results of the trial and extended the use of QUAKERCUT® 005 XP for use in all machines honing the inner diameter of transmission gears, as well as Thielenhaus machines honing bearing seats. By switching to QUAKERCUT® 005 XP, the manufacturer experienced the following advantages:

- » Cost savings through a **20% consumption reduction**
- » **38% Longer sump life**
- » **Reduced unpleasant odors**
- » Improved product stability and reduced foam

PROCESS AND EQUIPMENT

Part	Transmission gear wheels
Material	Steel
Machine	Nagel and Thielenhaus honing machines
Operation	Nagel: Honing inner diameter of transmission gear Thielenhaus: Honing of bearing seat
Filtration	Nagel: Paper 70gr Thielenhaus: Precoated filtration

THE PRODUCT

QUAKERCUT® 005 XP is a low viscosity, extra high performance neat cutting oil based on advanced ester technology from renewable raw materials. It is particularly suited for ferrous and non ferrous honing or grinding operations where good wetting ability is required. This wetting phenomena provides

high washing performance ensuring clean finishing stones or grinding wheels. Part of the QUAKERCUT® XP Series, QUAKERCUT® 005 XP has a proven track record of bringing operational, Health & Safety and environmental benefits to a broad range of customers in the automotive and mechanical industries.

THE EXPERTISE

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.