

# CASE STUDY



## MACHINING AND GRINDING

### QUAKERCOOL® 7101 AFH

#### CHALLENGES

A leading supplier of CRDI fuel injection pumps to automotive OEMs in India was looking to:

- » Reduce coolant consumption in precision machining of steel materials
- » Improve machine cleanliness and corrosion protection
- » Use Chlorine-free technology

The manufacturing facility included a total of 24 machines, with a combined annual coolant volume of approximately 14,000 liters (3,684 gals).

#### THE SOLUTION

Quaker introduced QUAKERCOOL® 7101 AFH in one hydraulic head line, requiring 600 liters of coolant. After a trial period of six months, Quaker was able to show – on an annualized basis – over 38% savings in oil cost. In addition, operators recognized a positive improvement in machine cleanliness, and noted that there was no compromise in tool or sump life.

#### CONSUMPTION/COST SAVINGS PER MACHINE

Oil cost (loading) per month	8%
Oil cost (top up) per month	25%
Total cost savings (annualized)	38%

Due to the savings demonstrated in one machine, the manufacturer decided to switch to Quaker's coolant for several more machines in the facility.

#### THE PRODUCT

QUAKERCOOL® 7101 AFH is an advanced ester-based, bacteriostatic, semi-synthetic fluid with a high mineral oil content. Developed for a multi-purpose action in machining and grinding, where surface finish is a major requirement. QUAKERCOOL® 7101 AFH is well suited to traditional as well as heavy-duty machining operations on cast-iron, steel and alloy steels.

#### 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.

#### PROCESS AND EQUIPMENT

Part	Hydraulic Head
Material	Steel
System Size	600 liters (158 gals)
Part Alloy	Alloy Steel - 16MnCr5
Water Hardness	<5 dH
Concentration	7.0%
Application Pressure	30 bar (420 psi)
Filtration System	Cartridge Filter
Specific Operation	Milling / Drilling