

Gun Drilling and Reaming

QUAKERAL® 370 SW
CASE STUDY



AUTOMOTIVE OEM

Challenges

A leading manufacturer and supplier of automotive braking systems to OEMs in India was looking to reduce coolant consumption in critical operations such as reaming and gun drilling of aluminum components. At the same time, it was important to the manufacturer to maintain high quality processes so tool life and surface finish would not be compromised. The manufacturing facility included a total of five machines, with a combined annual coolant volume of approximately 12,000 liters (3,158 gals).

After studying the situation, Quaker recommended using QUAKERAL® 370 SW. By using this product in one machine, the manufacturer was able to reduce coolant consumption by over 35% in just three months.

Product Description

QUAKERAL® 370 SW is a high performance, bacteriostatic, semi-synthetic fluid recommended for all difficult operations where surface finish is a major requirement. It is specially recommended for the machining of aluminum as well as difficult operations on cast-iron and steel.

Providing Solutions

Quaker introduced QUAKERAL® 370 SW in one brake master cylinder machine for aluminum gun drilling and Mapal reaming, requiring 1,800 liters of coolant. After a trial period of three months, Quaker was able to show – on an annualized basis – over 35% savings in oil cost. In addition, operators noted there was no compromise in tool or sump life.

Consumption/Cost Savings Per Machine	
Oil cost (loading) per month	7.5%
Oil cost (top up) per month	32%
Total cost savings (annualized)	35%

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

Process & Equipment

Part:	Brake Master Cylinder
Material:	Cast Aluminum
System Size:	1,800 liters (474 gals)
Part Alloy:	Al Alloy - LM 24
Water Hardness:	<5 dH
Concentration:	7.5%
Application Pressure:	<10 bar (<140 psi)
Filtration System:	Paper Band Filter
Specific Operation:	Gun Drilling and Reaming

Product & Process 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.

