Honing

QUAKERAL® 381 SD
CASE STUDY

AUTOMOTIVE INDUSTRY

Challenges

A major engine plant was running QUAKERAL® 370 BK, an older technology coolant, in their 9,500 gallon central system. This system feeds the Ghering hone which hones cast iron cylinder bores in both V-8 and V-10 cylinder blocks. In December 2008, the manufacturer agreed to perform a full dump, clean and re-charge of the system. Quaker proposed that the manufacturer upgrade to QUAKERAL® 381 SD to achieve improved bio-stability and foaming characteristics. In addition, Quaker wanted to show that by switching to the newer technology coolant the manufacturer would achieve an annual cost savings of $74,000 in both coolant and additive costs.

Providing Solutions

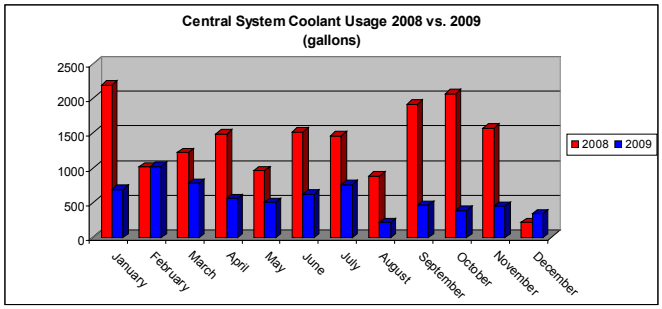
Quaker wanted to show that although premium fluid costs more per gallon, the manufacturer would still achieve a chemical cost savings, as well as cost savings in media paper, additives, and tooling.

Total system cost for 2008 using QUAKERAL® BK averaged $56,403 per month. After the conversion to QUAKERAL® 381 SD total systems cost averaged $42,070 per month. Based on the annualized system spend the conversion resulted in an annual cost savings of $171,990.

The table below shows the annual spend for 2008 versus 2009 and the annual cost savings that resulted from the conversion to QUAKERAL® 381 SD.

System Part	2008 Spend	2009 Spend	Cost Savings
Coolant	$233,498	$108,460	$125,038
Media Paper	$139,644	$103,440	$36,204
Additives	$3,902	$1,698	$2,204
Tooling	$299,796	$291,252	$8,544
		Overall Cost Savings	**$171,990**

The conversion to QUAKERAL® 381 SD not only resulted in a substantial cost savings, but also in a 9,695 gallon reduction of coolant used. The graph shows a 2008 versus 2009 month by month comparison of coolant usage.



Product Description

QUAKERAL® 381 SD is a high-performance emulsifiable metalworking fluid designed for heavy-duty machining and grinding operations requiring a high degree of lubricity, cleanliness, cooling, and corrosion protection. It is recommended for critical surface finish machining of cast and wrought aluminum alloys, as well as more difficult machining, grinding, and honing operations on cast iron and steel alloys. This product is designed to control microbiological growth including Mycobacteria. QUAKERAL® 381 SD does not contain any chlorinated paraffin or any formaldehyde-donating compounds.

Process & Equipment

Part:	V-8 and V-10 cylinder blocks
System Sizes:	9,500 gallon central system
Part Alloy:	Cast Iron
Water Hardness:	150 ppm
Concentration:	10 - 12%
Application Pressure:	30 - 40 psi
Filtration System:	6 pressure filters with polypropylene filter media
Specific Operation:	Cast Iron Block Cylinder Bore Honing

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.