

# CASE STUDY

## Automotive Manufacturing : 150% Wheel Life Improvement Grinding Bi-metal Engine Blocks

QUAKERCOOL® 8013

### The Challenge

A global automotive manufacturer performing grinding on bi-metal engine blocks was looking to replace their current coolant due to problems with foam and build up. The customer wanted to decrease the amount of times/year they had to clean the tank due to swarf. They were looking to produce quality parts as well as:

- Prevent build up on the wheel
- Eliminate foam
- Suspend swarf to be removed by filtration

### The Solution

Quaker Houghton recommended replacing the competitive coolant with QUAKERCOOL® 8013, a heavy duty metalworking fluid which is known for superior foam control.

### Creating Sustainable Value

Quaker Houghton focuses on providing customer solutions that reduce waste, energy, water usage and chemical consumption, while improving operational processes, tool life and the health and safety of workers. We are committed to creating a positive social, environmental and economic impact on our world.

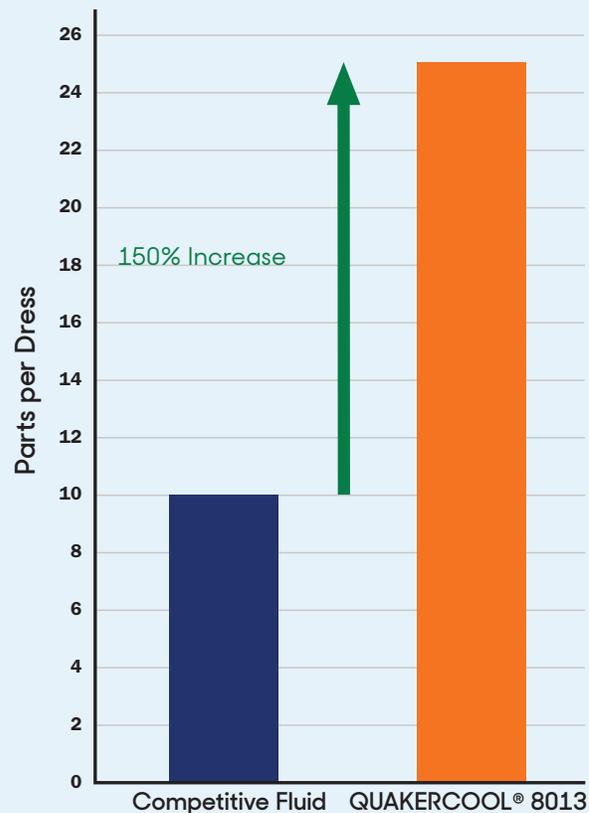
This product has eliminated the customer's foam issue providing a cleaner work environment and lowering the chance for slips and falls. The number of parts between grinding wheel dresses has increased by 150% which has improved throughput. Using QUAKERCOOL® 8013 the customer saw a buildup of a thicker cake on their filter paper as well as shortening of time between pressure advances. This would indicate an improvement in fluid cleanliness and dirt content has remained low on weekly inspections. Prior to using QUAKERCOOL® 8013, the tank would fill with swarf and need to be cleaned every 6 months. An employee would have to crawl into a small space to clean the tank which took 2-3 shifts to complete. By switching to QUAKERCOOL® 8013, the customer does not have to dispose of the tank contents as often and they are able to get 9 months to a year of use before cleaning. In addition to the production improvements, the customer was also able to benefit from a savings in coolant cost.

### The Benefits

By switching to QUAKERCOOL® 8013, the customer was able to benefit from the following improvements:

- 150% Increase in the number of parts between grinding wheel dresses
- Increased throughput
- Suspended swarf that is able to be filtered
- Excellent part quality
- No foam

### Wheel Life Improvement





## Process and Equipment

Part	Engine block
Part Alloy	Bi-metal
System Size	3377 gallons
Water Hardness	100 ppm
Concentration	6% to 8%
Filtration System	Henry with Oberlin filter paper
Specific Operation	Block grind

## The Product

QUAKERCOOL® 8013 is a neutral pH synthetic coolant. It has bacteria resistance, designed to reject tramp oil, and superior corrosion and foam control. This product is a high performance, heavy-duty synthetic metalworking fluid for use on aluminum and aerospace alloys. It is specially formulated for aluminum machining and provides superior surface finish in critical machining applications. QUAKERCOOL® 8013 can also be used on stainless steel and other alloy steels.

QUAKERCOOL® 8013 is highly fortified with water-soluble lubricity and EP additives making it capable of performing equal to heavy-duty soluble oils. It provides excellent cleanability, oil rejection, bio-stability and is very low foaming even in R/O water.

