

Challenges

A major automotive producer was using a cleaner/corrosion preventive on the finish case washers. The solution did not give adequate rust prevention and left behind a sticky residue. It also had limited biostability resulting in a decreased sump life.

This major automotive producer was looking for a product that would improve corrosion protection and not leave a sticky residue, along with having improved biostability to increase sump life. Quaker Chemical introduced QUAKERCLEAN® 624 MPC liquid alkaline type cleaner/corrosion preventive into this operation. The product resulted in a total chemical cost reduction and a reduction in the scrap/rework rate for the year.

Characteristics	Current Fluid Used	QUAKERCLEAN® 624 MPC
Neat Appearance	Clear Amber Tint	Clear to Light Yellow
pH Neat	9.96	10.5
pH @ 5%	9.98	9.8
Wetting Properties	Complete Wetability	Complete Wetability
Foam Test @ 3%	Initial: 0 mls +5 Min: 0 mls	Initial: 1 mls +5 Min: 0 mls
Chip Corrosion Test	2.5% Threshold	1.50% Threshold

Providing Solutions

Changing to the QUAKERCLEAN® 624 MPC resulted in a total chemical cost savings of \$11,651 for one finish case washer per year.

In addition to the chemical cost savings, the scrap/rework rate dropped from an average 21.8 per day to 13.1 per day, a 40% reduction.

The following tables provide a comparison of the fluid characteristics and fluid analysis of QUAKERCLEAN® 624 MPC versus the previous fluid used.

Current	Baseline Fluid Analysis	QUAKERCLEAN® 624 MPC Fluid Analysis
Concentration Spec	3-5%	3-5%
Usage/Year for a Line Block Wash	10,320 gal or \$44,995	5,576 gal or \$33,344

Customer Reference

- Chrysler
- GM
- JTEKT
- NTN Bower
- Robert Bosch
- SRS
- Volvo

OEM Reference

- Graper
- Ransohoff
- Valiant

Product Description

QUAKERCLEAN® 624 MPC was developed as a multi-purpose liquid alkaline product designed to provide excellent cleaning in spray and immersion wash applications. The product is approved and in use by automotive manufacturers around the U.S.

This versatile product is used to clean and protect metal surfaces in one step. This simplifies operations and keeps inventory costs low, and will impart short-term corrosion protection to the metal surface when not rinsed. The mild alkalinity is safe for use on both ferrous and non-ferrous metals.

This single product can be used for two applications, which reduces inventory and costs. The moderate pH of the product is very compatible and the low foaming technology means no excess foam generation at temperatures up to 150°F. This means less product consumption and lower costs. Its hard-water compatibility and imperceptible film on parts facilitates gauging and the handling of parts which leads to fewer rejects and lower costs.

Process & Equipment Info

Engine Block

Part:	V6 Engine Block
Part Alloy:	Cast Iron
System Size:	6,000 gallon DURR Washer
Wash:	3,500 gallons
Rinse:	2,500 gallons
Fluid Temperature:	Ambient
Blow off Temperature:	100°C
Wash Pressure Pump:	30 psi
Rinse Pressure Pump:	25 psi

Product and 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.