

ASHBURN 7090 Provides Significant Cost Savings in Magnesium Machining Operation

An automotive die casting and precision machine shop in Missouri was experiencing excessive coolant usage in machining operations on die cast magnesium. The shop was dumping and re-charging the coolant every two weeks due to coolant discoloration and part staining. Ashburn Chemical was brought in to analyze the operation and recommend a solution.

ASHBURN 7090 was recommended due to its multi-metal compatibility including magnesium, and long sump life.

Part Machined: Automotive Die Castings
 Material: Magnesium and Aluminum
 Material Grades: AZ91, AM50, AM60, A360, A380, A383
 Coolant Concentration: 10%



Results

| MEASUREMENT | ASHBURN 7090 | Competitor A |
|------------------------|-----------------|----------------------|
| Sump Life | | |
| Coolant Discoloration | No color change | Coolant turned black |
| Coolant Dump/Re-Charge | 6 Months | 2 Weeks |
| Coolant Usage | | |
| Annual Drum Usage | 80 Drums | 300 Drums |

ASHBURN 7090 running at the same 10% concentration as the competitor, provided equal performance in tool life and surface finish in machining magnesium as well as aluminum. However, the 7090 showed superior compatibility with magnesium. It did not discolor in the sump or stain parts.

The reduction in coolant usage has resulted in an annual savings of **\$ 286,344.**