

COOLANT RECYCLING

WHAT IS COOLANT RECYCLING?

With advanced metalworking fluid technology, some Castrol Industrial customers are choosing to implement coolant recycling programs to increase fluid sump life while reducing fluid disposal costs. Coolant recycling is best suited for metalworking fluids with excellent emulsion and biological stability that also readily reject tramp oil contaminant and drop metal fines. The success of a coolant recycling program is dependent on the selection and proper monitoring of the metalworking fluid and recycling equipment in a sump.

HOW IS COOLANT RECYCLING CONDUCTED?

Recycling equipment is used to clean the metalworking fluid in a sump by removing undesired contaminants prior to re-use of the fluid. A coalescer is an economical recycler that effectively removes tramp oil and other undesired contaminants that are readily rejected by synthetic and low oil containing metalworking fluids. A coalescing recycler requires routine maintenance to ensure efficient separation and removal of free contaminants in a sump's fluid.

Alternatively, a centrifuge recycler uses high spinning action to effectively separate and remove undesired contaminants and dirt from a sump's fluid. Due to the high speed of this recycler, key fluid components can inadvertently be separated and removed from the fluid. Routine monitoring and proper adjustments of the centrifuge recycler is recommended to ensure quick and efficient cleaning of a sump's recycled fluid.

A third type of recycler is a fluid recycling unit. A fluid recycling unit maintains fluid circulation while effectively separating and removing undesired contaminants and dirt from a sump's fluid. This unit provides the ability to easily replenish fluid additives and adjust fluid parameters to acceptable levels. A fluid recycling unit requires routine maintenance to monitor the unit's filter media and other unit conditions. Ultimately, it is recommended for Castrol Industrial's customers to review a metalworking operation with their Castrol sales representative to determine if a coolant recycling program is suitable.

WHY IS CONDITION MONITORING IMPORTANT IN A COOLANT RECYCLING PROGRAM?

While coolant recycling can help to increase a fluid's sump life and reduce fluid disposal costs, it is recommended to routinely monitor the recycled sump's fluid through the Castrol Industrial used oil analysis program.

A metalworking fluid sump with lean concentration may experience bacteria growth due to reduced bioresistance, formed rust on machined surfaces due to reduced corrosion protection, and other machining complications. Typically, when a sump's concentration trends consistently lower than its desired concentration range, fresh product concentrate may be added to increase sump concentration.

Conversely, a metalworking fluid sump with rich concentration may experience foam generation and ultimately result in excessive product usage. Typically, when a sump's concentration trends consistently higher than its desired concentration range, water may be added to lower the sump's concentration. Monitoring the condition of recycled coolant in a sump through the Castrol Industrial used oil analysis program helps Castrol's customers achieve full product performance of their metalworking fluid.

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