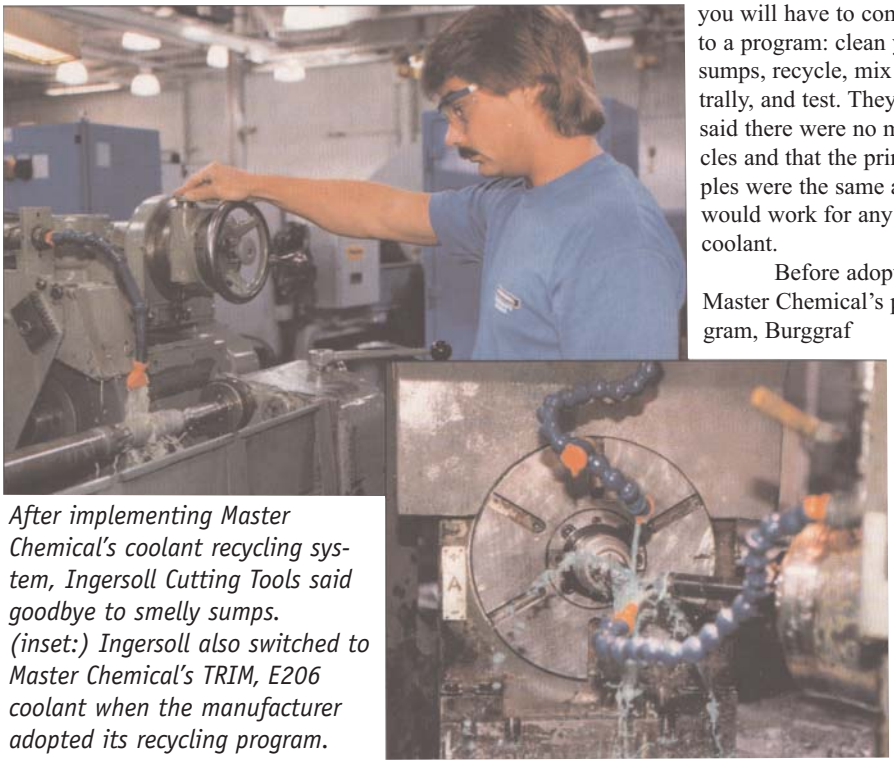
Recycling Pays Off for Ingersoll

Before adopting a new coolant recycling program, Ingersoll Cutting Tools (Rockford, IL) had an all-too-typical problem: smelly, sour sumps were fouling the work environment, frustrating machine operators, discouraging the maintenance team, and leading to lots of finger pointing.

Before recycling, it was common for our sumps to go sour every four weeks, says Steve Burggraf, manufacturing engineering team leader at Ingersoll Cutting Tools. We were continually emptying, dumping, and wasting money. To solve the problem, Ingersoll finally turned to coolant and recycling supplier Master Chemical Corp. (Perrysburg, OH).



After implementing Master Chemical's coolant recycling system, Ingersoll Cutting Tools said goodbye to smelly sumps. (inset:) Ingersoll also switched to Master Chemical's TRIM, E206 coolant when the manufacturer adopted its recycling program.

Everyone had a theory about what was wrong. Operators complained to maintenance. Maintenance complained to the fluid supplier. A pressure washer was used on machines and pits. DI water was installed. And at the suggestion of the coolant supplier, the way oil was changed and additives put in the coolant. Finally, Ingersoll invested in a new separator/skimmer, which actually helped spread the contamination.

Lathes and mills were the problem, observes George Goddard, Ingersoll's maintenance lead man. Brand-new coolant would smell like a septic truck, often within 30 days. And once the smell started, it would be overpowering within a week.

We needed to educate ourselves, says Burggraf, who learned of a two-day seminar on coolants taught by Master Chemical. Ingersoll believes in education and we sponsor seminars in metalcutting to show customers how to use our tools to improve their efficiency.

What convinced me was how painfully honest they were about what you have to do to maintain the coolant, says Jeff Kunkle, Ingersoll's maintenance team leader, who attended the seminar with Burggraf. But Master Chemical said you will have to commit to a program: clean your sumps, recycle, mix centrally, and test. They also said there were no miracles and that the principles were the same and would work for any coolant.

Before adopting Master Chemical's program, Burggraf insisted on doing some testing. We evaluated several coolants for performance and operator acceptance before switching, he says, comparing the top three coolants from distributors who could service Ingersoll. Reducing as many variables as possible, Ingersoll conducted tapping tests. Master Chemical's TRIM®, E206 coolant came out on top.

Ingersoll next tested the new coolant on a couple of machines to check operator acceptance. Before using TRIM E206, we had rust on the machines and that awful smell, says Tom Wainwright, an Ingersoll machine operator who has been with Ingersoll for 21 years and runs a Mori Seiki HMC that makes a 42-inch-diam tool body. The worst machines went bad every month. First, the sump would turn white, and then the smell would start. About four days later, it would be terrible. It would grow fungus on the machine.

The biggest selling point for operators was fluid recycling, says Kunkle. We now have people showing up at machines for regular maintenance.

Goddard describes recycling as scheduled maintenance. We test the coolant on a weekly basis on every machine taking pH and refractometer readings. Once every four weeks, we pump out coolant, skim off the oil, add chemicals, and filter it into a clean tank. It doesn't take very long at all to recycle. We can do a machine in about one hour, as compared to 8-10 or more hours for a stinky machine.

Changing to a regular, scheduled recycling program wasn't difficult for maintenance to embrace. Says Kunkle:"Maintenance people were not happy doing changes on nasty-smelling sumps, so it was rather easy to convince them to try something that would be an improvement."

Since starting the program two years ago, only one machine has gone sour, notes Goddard. "The worst one had been going sour every 30 days. We took it down, pressure cleaned it, and used the recommended cleaner. We had no more problems, and there's no more complaining from operators about smelly coolant."

The change was not a big expense, since Ingersoll was already using DI water. But it wasn't an easy process. The thorough cleaning of machines had to be scheduled and coordinated with production. We invested in a steam cleaner, says Burggraf. It took two days per machine to drain, steam clean, and flush the system.

Kunkle documents $7000 a year in coolant savings and estimates Ingersoll's disposal savings at close to $6000 a year. But the big impact is in control and an improved environment. We spend nearly as many hours in recycling as we did in cleaning, but we can schedule it, he says, and that's the big plus.

Reprinted from Manufacturing Engineering - March 2001

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