



Machining

Machining Coolants: How to Get a Competitive Edge

Roland Jones | Apr 28, 2020

Smart users of machining coolant know that good fluid maintenance is key to operating a successful shop. For Master Fluid Solutions, it's the company's bread and butter. How does it achieve that for clients? We spoke with the company to find out.

When it comes to machining, coolants are an instrumental part of your shop's work equation—they cool and lubricate your tools, helping to prolong their lives, and they improve the surface finish of the parts you machine.

But coolants are by no means the most expensive part of a machining shop's costs. They are a fairly inexpensive component of the cost of machining an engine block, for example, when compared with the expense of the aluminum or steel used, the tools that machine the part and the labor that goes into their operation and upkeep.

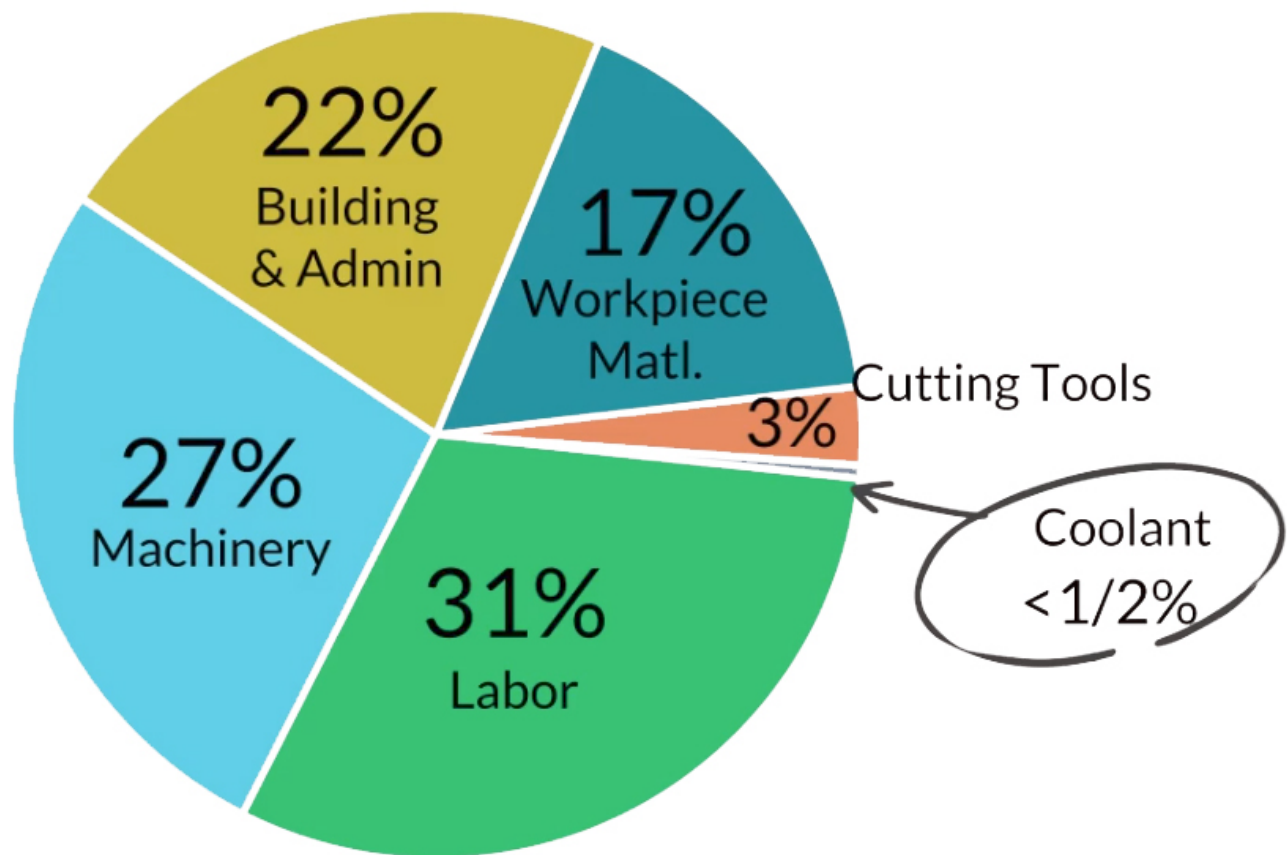


Image source: Master Fluid Solutions Metalworking Cost Breakdown

"Fluids might not be the most expensive part of your operation, but if you don't get your fluids right your decision can have a big impact on the rest of your operation; all of a sudden, the tiny sliver of the cost pie has importance throughout the whole system," notes R. Dean Richmond, global aerospace sales manager at Master Fluid Solutions.

Take aerospace parts manufacturing, for example. The titanium alloys used can quickly wear down cutting tools due to the heat generated, so using the best fluid to maximize lubricity and extend tool life is vital for reducing tool costs and giving a company an important edge in a highly competitive marketplace.

"The outcome is your price per tooling goes down while the throughput of the machinery goes up. You can make more before you have to take everything down and replace the tools."

R. Dean Richmond

Global Aerospace Sales Manager, Master Fluid Solutions

Working closely with a company to ensure it maintains an optimal cutting fluid is the primary objective of **Master Fluid Solutions**. The company focuses on offering its clients a "holistic approach" to fluid management, Richmond says.

"We offer a thorough fluid management program to avoid as much waste as possible," he says. "We ask our customers: How can we minimize how much you use upfront, and how can we minimize the amount you have to throw away?"

Coolant Management Reduces Waste and Improves Productivity

This personalized approach to coolant selection and management goes directly to the heart of the company's founding principles. Clyde A. Sluhan launched Master Chemical Corp. (now Master Fluid Solutions) in 1951 with the lofty aim of not simply opening a business to make a profit, but also to improve the productivity of the manufacturing sector.

That philosophy of improvement has extended into the company's dedication to launching recycling products that extend the life of its products. *The XYBEX coolant recycling system*, for example, allows customers to reduce waste in their fluid use, lowering their total cost of operations.

Today, Master Fluid Solutions sells a full line of environmentally sound and durable cutting and grinding fluids, straight oils, parts cleaners, and rust preventives. It has operations in six countries and serves companies in several sectors, including aerospace, agriculture and automotive. "Basically, anything you fly or drive," quips Richmond.

Machining Coolant Management Can Extend Tool Life

Taking a holistic approach means working closely with clients to manage their fluids, using data to avoid as much waste as possible.

"Some companies may take a standard operating procedure approach, but if you work with us, we know exactly when to make changes to your coolant so it's reusable," Richmond says. "And with closer concentration management we make sure your equipment and tools last longer, because the wrong concentrations can corrode your tools and when you have to take everything down to replace them you can't do any work."

Richmond cites as an example a large manufacturer of commercial aircraft fuselage that was spending \$1 million a year on metalworking, but signed with Master Fluid Solutions in 2019 and reduced its metalworking costs by half.

"They saved half a million, but they actually saved more because now they don't have to take their machines down as frequently," he says.

READ MORE: Check out more coolant management tips in Better MRO's "4 Tips To Optimize Machine Fluid Maintenance And Coolant Disposal"

For every dollar spent on machining coolant, companies tend to spend \$6 to \$10 on cutting tools (items such as carbides or high-speed steel), Richmond says. Having better cutting capabilities means you can cut a part more effectively, and the tools last longer before you have to replace them, or shut down the machine and replace all the tools or parts.

"We say: What if we could improve your tool life? If you get 10 hits working with fluids from a competitor, how about we make sure you get 15 with us? That's a 50 percent improvement, and the outcome is your price per tooling goes down while the throughput of the machinery goes up. You can make more before you have to take everything down and replace the tools."

How Machining Coolant Management Benefits the Environment

Master Fluid Solutions argues that its approach to fluid management has environmental benefits, too. In states such as Oregon and California, where the cost of disposing of fluids that have trace amounts of metals such as lead or nickel is high, lower coolant usage clearly means less waste, and therefore lower disposal costs.

Similarly, the titanium alloys and other metals machined throw off chips that can be resold. The more fluid there is on those scraps, the less valuable they are when resold, so using less fluid means better resale values, Richmond says.

"Many of our competitors don't want their customers to use less of their product; they are generally large companies that happen to sell machining fluids, but we are unique," he adds. "We are a family-owned company and we put our customers first. While some of our products are in the upper range of cost versus those of our competitors, we offer our customers something very valuable."

"With our holistic approach to lowering the total cost of coolant we become a more economical choice," he says.

How do you maintain the performance of your coolant? What practices have worked for your shop?

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