

DIMAC releases Coolant Maintenance Manual

02 March 2011 – Dimac Tooling, Mulgrave, VIC, has released the Zebra Coolant Maintenance Manual which offers machine shop operators useful information and advice on all aspects of coolant management and maintenance.

“Machining coolant (or metalworking fluid) maintenance is still considered an art in many machine shops,” Dimac Director Paul Fowler says. “Smart users know that well maintained cutting fluids can last for years, not weeks or months. The manual introduces you to the basic elements of getting the most out of your coolant sump system. This will save you money in buying less coolant concentrate, spending less time mixing and measuring it and less money to have someone haul it away.”

The Coolant Maintenance Manual contains information for first timers, and detailed information for advanced users. For those who want to dig deeper, this is an essential document for intensive research.

“Most machine shop operators think of coolants as a necessary nuisance, something that blows chips off the part,” Mr Fowler says. “In fact, the most important jobs for all metalworking fluids is keeping the tool cool so it lasts longer, and lubricating the tool edge so that it makes a faster and cleaner cut.”

Today's coolants are a sophisticated soup of chemicals that all try to do the same thing, blend the best properties of oil into the best properties of water. Along the way the compounders who make these coolants try for other goals as well: rust inhibition, tolerance of a wide range of water hardness, ability to work with many metals, and even environmental safety.

“Three major forces are making us take better care of our coolants,” Mr Fowler explains. “First, coolants are becoming more expensive. Second, the increasing cost of labour means they are more expensive to take care of. Third and finally, the cost of disposal keeps increasing. In order to keep our coolants working properly for years we have to understand how they work, and why they go bad. Once you understand what is going on, you can expect to use a coolant sump for years before it will need changing or major maintenance”

Chemistry is where it all starts. Coolants are a complex blend of many chemicals, whether organic or fully synthetic. The basic function of these chemicals is to allow oil to emulsify into water, but they also must be able to resist corrosion of steel, not alter the surface of aluminium, to maintain pH stability around 8 to 10, and to resist breakdown from the extreme heat of the tool tip.

Biology is where it all ends, because microbes are the real enemy of all coolants. Whether you fight infections with an antibiotic, or enjoy beer with your cheese, you have dealt with a microbe in some form. Given the right conditions and a little bit of time, your pristine sump can go from having only a few hundred microbes in every millilitre (about ten drops) to over a million.

Mechanics is what makes the coolants work, and what keeps them working. The pump forces fluids through pipes and onto the workpiece. The fluids then splash down into the collection sump. Oils from the ways, leaking seals, and from other sources ends up in the sump as well, eventually floating on top of the coolants. Chips and dirt from the machine also find their way into the sump, and this collection of fluids and particles presents a very different problem of coolant maintenance for every sump.

DIMAC offers several coolant maintenance products, including the Zebra Oasis oil skimmer, and will continue finding the best solutions, methods and products for its customers to help them improve productivity and maximise their return on investment.

“Keeping your coolant in a good condition can prolong the life of your coolant for up to three years,” Mr Fowler concludes. “As a result, machine shops can save costs while at the same time increasing productivity and part quality.”

Please download the manual here http://www.dimac.com.au/product/turning/coolant/coolant-accessories/coolant-maintenance-manual_colmmor call us on 03 9561 6155. For more info please visit www.dimac.com.au

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