MS Fluid technologies
Solutions for Manufacturing

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CASE STUDY

PROJECT: Improve Stamping Results with High-Strength and Stainless Steel

CLIENT: TOMASCO, mulciber, Inc. (Tier One Supplier to Honda & Nissan)

TECHNOLOGY: MSF's Eco Draw® Clean-Technology Stamping Lubricants

SAVINGS:

1) Replaced all petroleum-based stamping lubricants and associated costs.
2) Reduced lubricant use cost by 50%.
3) Increased press speed by up to 23%.
4) Increased tool coating life by 22%.
5) Increased overall equipment efficiency by 29%.
6) Reduced overtime.
7) Improved parts cleaning and extended washer bath life.
8) Reduced washer maintenance and preventative maintenance.

Project Savings = $225,000+ annually

PROJECT:
TOMASCO initiated a project to improve its forming lubricant. The staff hoped to replace the incumbent lubricant with a product that would perform better and would save money. The company's research led them to evaluate synthetic lubricants. A team of managers, engineers, and operators evaluated products from three suppliers. The first synthetic lubricant did not perform adequately and had an objectionable odor. The second product created stickiness and build-up in their dies and tooling. The third product created improvements beyond the team's expectations.

The TOMASCO team selected Eco Draw® HVE-1 because of the knowledge and involvement demonstrated by the lubricant's supplier company, MS Fluid Technologies, Indianapolis, IN, and because the product was approved by TOMASCO's primary OEM customer Honda. The lubricant was slotted for a one month trial on one press, but within two weeks, improvements and cost savings were successful enough that the team took the data to upper management in order to expand the trial to additional processes in the Stamping Department. The products use was initiated on another press each week.

The petroleum lubricant had been used undiluted and required the viscous boundary effect to protect tools. Eco Draw® HVE-1 was used diluted four parts with water (4:1). The team calculated a use cost savings of 50%. Further tests indicated that the dilutions could be successfully increased; making use cost savings would be even greater.

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To determine if these savings were real the production and die maintenance was monitored. In the process, TOMASCO discovered more improvements and savings. Using laser guided heat monitors managers determined that this new lubricant lowered the temperature of the dies and maintained die temperature in the first form station and last stage. This performance feature allowed press operators to increase press speeds on all parts; on parts such as TOMASCO's SDA Stabi FR, the press speed was increased by as much as 23%.

Since using Eco Draw® HVE-1, dies require less polishing and die coatings last longer. This feature provides significant savings in three ways: (a.) It reduces the cost of re-plating dies. (b.) It reduces downtime associated with polishing, re-plating, or reworking out-of-spec parts. (c.) It maintains part quality and consistency. As a result, the overall equipment efficiency (OEE) has improved by greater than 29%, stamping overtime has been reduced, and tool coating life has been extended by over 22%.

The new lubricant has improved cleaning results in the paint pre-treatment system. Parts clean easily and the lubricant does not contaminate the system. Preventative maintenance (PM) is much easier such that all scheduled daily processes are easily completed and maintenance department has been able to extend the more extensive PM beyond former weekly and monthly schedules.

The press operators are happy with the lubricant and they talk about how great it works. High-strength, cold rolled, hot rolled, and stainless steel all work well with the Eco Draw®. The lubricant has led to a cleaner and safer work area for Stamping, Welding, and Assembly Associates when compared to the previous lubricant that was used.