CASE STUDY 20060914R

Maintaining Coverage in 4 Stage Draw

Automotive Stamper Overcomes Fears of Less Fluid

One of the biggest reservations of a California automotive stamper for switching from an oil bath to roller lubrication for coil stock was that too little fluid would be placed on the material, causing die damage, galling, heating, etc. "We were very reluctant," said the director of maintenance, "fearing the type of coverage we would get."

Application: Stamping aftermarket transmission oil coolers from .006 aluminum, using a 16 row ribbon die with a 4 stage drawing progression.

Problem: Maintaining enough vanishing fluid on the stock for the part to complete the entire die progression.

Previous Solution: A dip tank that ran the material through the fluid and wiped the excess off with a sponge, allowing the wiped off fluid to fall back into the tank.

Unist Solution: uni-Roller – RL 18 Type C
SPR 2000 Controller
3 Gallon Stainless Tank

The Story: With a feed rate into the Burr Oak Press of 1.25" per stroke, and 275 strokes per minute, there was no room for mistakes in this high speed operation. Any time it is suggested to use less fluid in an application like this, there is the obvious concern about how much less will work. Most stampers prefer to err on the side of having too much fluid because it helps them to be certain that the part will be correctly stamped and the tooling will be preserved. By giving coil stock a bath in the dip tank, and wiping the excess off with a sponge, the company still maintained large amounts of fluid on the material as it entered the die progression.

When the UNIST system was introduced, the amount of fluid that actually ended up on the stock was actually reduced by about 50%, according to the company's director of maintenance. Fluid is still placed on both sides of the stock, just as in the dip tank, but very little is actually applied to the bottom. The fluid is placed on the material more evenly and consistently than with the tank and sponge method, allowing for complete coverage on the material when it reaches the die, yet without the excess that will fall off the material.

The high solvent content in the vanishing fluid was also a concern for this manufacturer. It has not had any adverse affects on the UNIST equipment. The system has never been down for repair and no parts have been replaced, including roller covers, which are still the original covers after more than a year.

The Results:

On this single application:

Fluid Consumption was reduced by 50%.
Fluid cost – 15% per gallon.

Waste disposal was reduced.
Housekeeping improved in all aspects.