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A Quick Look at Dry-Film Lubricant

A Metal Processor's Best Friend

Guest Blogger: Mike Tieri - Director of Sales & Marketing, Chemcoaters

Scrap...What a problem! Are you having trouble with higher scrap loss than you can understand or more importantly tolerate? It could be the metal but perhaps it's a problem in the processing itself. Have you looked at dry-film lubricants (DFLs)? If it's been a while, you should look again. Largely used by the automotive and appliance industries, you surely know that if it didn't provide a tremendous benefit, they would never add that cost into the process. When I asked why, I was shown all of the benefits it provided.

CASE: One company monitored costs of using oil against DFL. One item evaluated was worker gloves. They said that bringing material in with oil showed that workers wore 5.6 pairs of gloves per week. By going to DFL, the workers' gloves didn't get saturated and usage was dropped to 2.4 pairs of gloves per week. It might not seem to matter much but on 1800 workers the cost savings paid for the DFL! WOW!

It provides much better coefficient-of-friction numbers usually between 0.04 and 0.09, much better than any wet lube or oil. So, regardless of how the metal is drawn or shaped, there is a barrier between the metal and the tooling. This reduces the metal shavings mixing with tool shavings and oil. In the end, there is less sludge build-up in the die. This creates a greater amount of time and parts between die cleanings, less scrap due to galling and/or cracking and less down-time on the machine.

CASE: One company used so much oil, they applied it with a mop so much in fact that the robots used to move the sheets were unable to pick up the metal. Production dropped off drastically because they had to use four men instead of two robots. Oil was being splashed all over the area and then tracked through the plant by foot or forklift traffic. Build-up in the die was so quick that they could not meet the demand for the parts. By going to DFL, the robots were put back in place, production time greatly increased and they had a much cleaner, safer work environment.

Dry-film lubricants provide more warehouse protection against corrosion and will not oxidize on the surface of the metal. If you were welding, the DFL reduces the spatter from sticking to the metal. It's a non-hazardous product that can be left on or removed with an alkaline cleaner; it can even be tinted for visual detection.

CASE: One company used so much oil to make its parts that they had to use a very hot wash system to clean the parts. The time it took created a bottleneck in the production process that created tremendous delivery issues. The other problem was that the water solvent was so hot that it burned the oil and created a sort of tar on some of the parts. By going to DFL, they could process easier and faster, increased throughput, eliminated the bottleneck and reduced scrap. They are now moving to convert all jobs in the plant to DFL and remove the wash system.

In closing, if you were going to open a hamburger restaurant, you might want to open right next to McDonalds. They have done all the work to evaluate whether they should be there or not. No one will eat at the same place every day. Take advantage of the R&D that they have done, the same way you can be assured that the process-improvement teams at auto and appliance companies have done their homework. You can benefit from that. Give it a look and see where dry-film lubricants can work for you.