



CASE STUDY: Improved Productivity Through Product Innovation

New Die Lubricant Reduces Solder and Improves Productivity

Situation:

A leading die caster was making engine blocks with steel cylinder inserts on a 3500 T Ube[®] machine with a total cycle time of less than 120 seconds. They were getting good solder protection, with low overspray and in-cavity build-up with a die lubricant running at about 1:100 dilution. When they started casting a new engine design, they noticed solder formation near the water jacket area on the part. This required them to stop production and polish the die for about 30 minutes every 8 hours.

A competitor's attempts to solve the problem resulted in failure, giving rapid solder formation even at 1:50 dilution.

Solution:

Chem-Trend studied the tool design and took thermal images of the die before and after spray to monitor temperature profiles and spray distribution. The temperature ranged from 232°C to 399°C (450°F to 750°F) before spray on the ejector die. Observation revealed that the previous product was not covering the problem area adequately. A new Chem-Trend[®] product was engineered to provide better coverage and rapid film formation at the high temperatures seen on the die. The pictures above show the dramatic reduction in solder.

Benefits:

The improved performance provided by the Chem-Trend[®] product eliminated the need to polish every shift and reduced the cleaning time by 50%, saving the customer money and improving their operational efficiency.

 **Chem
Trend**

Release Innovation™