

PLASTIC HEAT SEAL PINS

Dicronite® used to increase production output by over 28%

PROBLEM

A major manufacturer of LCD televisions uses a heat seal pin system to bond two pieces of the front cabinet panel. The manufacturer was encountering severe sticking of the resin to the heat seal pin resulting in waste and excessive downtime. Production output was less than 50% of their goal.

Originally, a Teflon coating was applied as a potential solution. While the Teflon coating improved production output, it only improved production to 60% of the goal. In addition, 2 stoppages per shift were required to manually remove waste resin and reapply a sacrificial mold release. Finally, the Teflon coating required re-polishing and re-application every 2 to 3 weeks.

SOLUTION

In hopes of finding a solution that further reduced net cost, downtime, and increased output, the manufacturer decided to test Dicronite®. The goal of the test was to see if Dicronite® could increase production at least 25% over current volume while not changing pin cavity geometry to ensure conformance to design specifications. Dicronite® was applied to the cavity and sliding surfaces of the pins in place of the Teflon coating.

RESULTS

The results proved that Dicronite® was a significantly more effective coating for this application.

- Production output increased by over 28%
- Stoppages and use of additional release agents were eliminated
- Higher operating temperature ranges were acceptable (>185°C) allowing further optimization of production
- Coating costs relative to Teflon were reduced by greater than 50%

The Dicronite® coating was selected over Teflon and has been incorporated into the facility-wide preventative maintenance program. With Dicronite®, the manufacturer increased production output while decreasing cost due to both scrapped material and tooling maintenance.

