

CASE STUDY

Die Casting :

20% Cost Reduction and Improved Cast Transmission Case Quality

DIE SLICK® 2015

The Challenge

A global supplier of aluminum transmission cases manufactures high pressure aluminum die castings for an array of automotive applications. They have facilities located across the globe to provide local support for their diverse customer base. The supplier was facing issues with their die casting operations and were specifically looking to alleviate the following issues:

- Poor quality of die cast parts
- Prolonged production downtime due to polishing

The Solution

Quaker Houghton met with management at one of the supplier's major automotive casting facilities, and secured a production trial. The objectives were to reduce downtime from polishing and overall production cost. Initially, the Quaker Houghton team worked closely with the process control department to better understand their casting production utilizing thermal imagery on die surfaces. Based on laboratory analysis and thermal imagery results the soldering and build up problems were identified and Quaker Houghton recommended DIE SLICK® 2015, a subset of the DIE SLICK® 2050 A series.

Process and Equipment

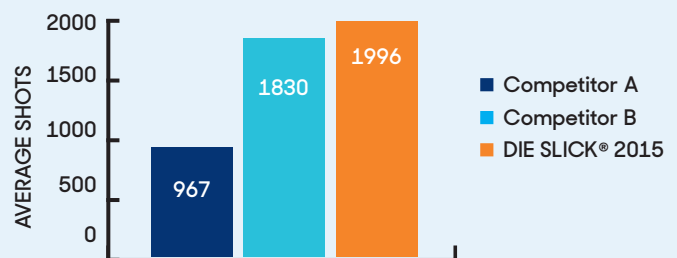
Product replaced	Competitor A
Product trialed against	Competitor A & Competitor B
Concentration	Competitor A Dilution 60:1 Competitor B Dilution 70:1 DIE SLICK® 2015 Dilution 75:1
Material	Aluminum 383
Operation	Die Casting
Machine	Toshiba 600-2500 tons

The Benefits

Through trials on several machines over a six month period, the customer observed the following:

- Improved performance by reduction in downtime
- Reduced overall cost by approximately 20%
- Improved polishing frequency based on production trial results

Polish Shot Frequency



The Product

The DIE SLICK® 2050 A series is formulated as a concentrate designed for excellent release and bright cosmetic casting finish. DIE SLICK® 2015 is a semi-synthetic wax free formulation blended specifically to meet customers' production environments and incorporating state of the art Smart Polymer technology. DIE SLICK® 2015 with Smart Polymer technology is a thermodynamically reactive (heat activated) polymer blend which forms a tough barrier on hot areas of the die while lightly coating cooler less demanding areas. This unique property translates to reduced solder, enhanced release and wetting characteristics while producing bright clean castings. Concentration range: 70:1 to 90:1 depending on type of operation.

