Production rate increase avoids capital investment for a new line addition

ACCUCAST ceramic casting media increases production and reduces defects compared to silica sand in lost foam process.

The challenge

A captive aluminum automotive operation using silica sand in the lost foam process was faced with a need to increase production to meet engine block production requirements. With multiple production lines already operating, they were faced with a significant potential capital investment to add yet another line.

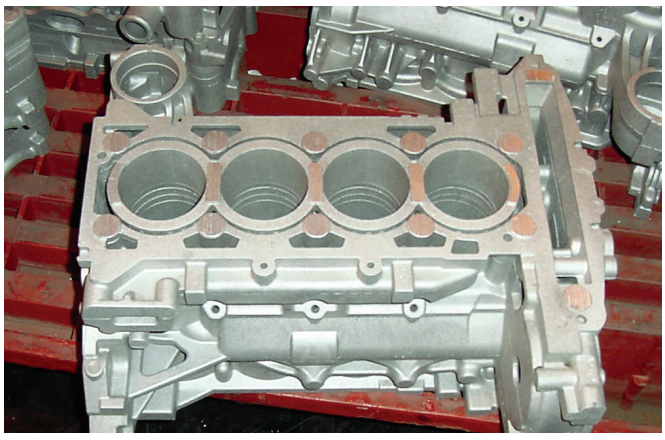
The solution

Previous studies conducted at the University of Alabama Birmingham indicated that ACCUCAST ceramic media flowed faster and with less energy than silica sand. Testing had proven that increased flow of the media directly correlated to an increase in production throughput, and that reduced energy requirements led to a decrease in the number of defects and scrapped castings.

The results

With the implementation of the ACCUCAST ceramic media, the operation experienced a 27% increase in production and a 9% reduction in defective, scrapped castings. This resulted in an effective 36% overall production increase, avoiding the increased capital investment.

Inline 4-cylinder aluminum engine block



Project Details

Client: Captive aluminum automotive foundry

Location: Northeastern US

Type: Lost foam process

Deliverables: Aluminum engine blocks

Casting media: Replaced silica sand with ACCUCAST ID40 high-performance ceramic casting media

Benefits achieved

- Cycle rates increased 20% initially and 27% subsequently
- Premature foam melt defect eliminated
- Casting quality showed an improvement over silica sand castings
- Leakage reduced 7%
- 9% total improvement in quality per leak tests

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