

Casting defects eliminated, saving a billion-dollar casting project

Switching to ACCUCAST ceramic casting media from olivine sand achieved necessary dimensional tolerances for aluminum marine foundry project.

The challenge

A captive aluminum marine foundry had a new billion-dollar project that was scheduled for startup. They were not able to meet casting dimensional tolerances using their existing olivine sand media. The project was in critical jeopardy, facing a delayed startup date. A replacement media would have to be:

- Capable of delivering high thermal stability that would meet the required casting tolerances and dimensional precision
- Abundant and readily available

The solution

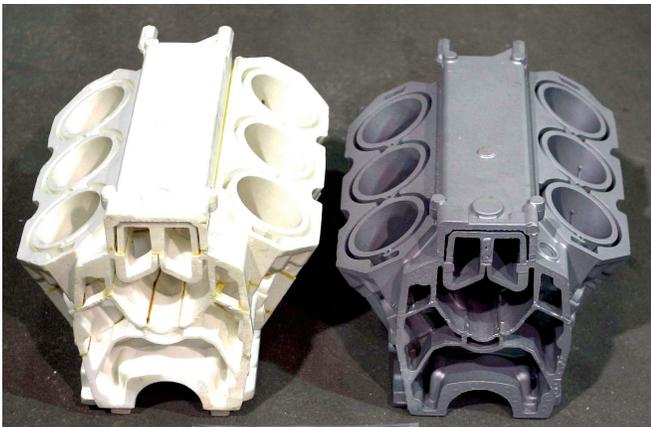
ACCUCAST ceramic casting media was identified as a potential replacement for olivine sand. In trials it proved capable of meeting the necessary dimensional tolerances. As a synthetic, manufactured product, the ceramic media not only proved abundant and readily available, but the manufacturing process provided a consistent product that resulted in repeatable casting quality and performance. The product also proved durable, highly reclaimable and ideal for recycled use.

The results

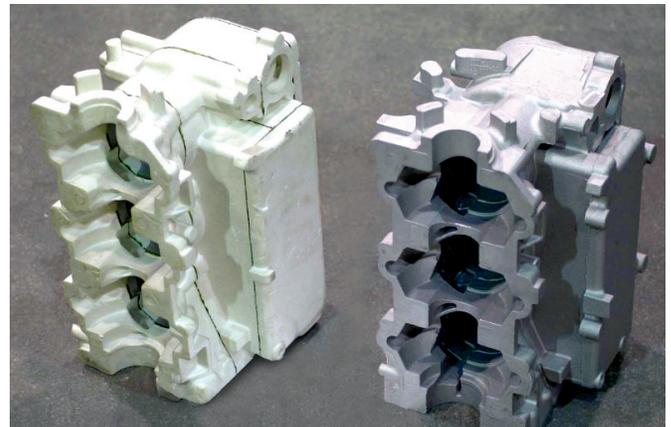
The dimensional casting window was decreased and all casting tolerances were achieved. The billion-dollar project was saved and met scheduled startup.

Photos below are examples of products produced with the ceramic media.

V6 engine block—250 horsepower ≈ 60 lbs



Inline 3-cylinder engine block—60 horsepower ≈ 30 lbs



Project Details

Client: Captive aluminum marine foundry

Location: Midwestern US

Type: Lost foam process

Deliverables: Complex engine blocks, <100 lbs

Casting media: Replaced olivine sand with ACCUCAST LD30 and later ACCUCAST ID40 high-performance ceramic casting media

Benefits achieved

- Desired dimensional tolerances were achieved
- Casting defects were eliminated
- No breakdown was generated with product use
- Startup time was met, project was saved

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