

Cleaning cost reduced while achieving high casting precision

Replacing olivine sand with ACCUCAST ceramic casting media reduces cleaning costs and eliminates veining defects.

The challenge

A gray and ductile iron job shop using olivine sand in the lost foam process was experiencing high burn-on of media to the castings. In addition, veining defect and distortion of casting roundness occurred, resulting in longer cleaning times and higher production costs. Their goal was to cast cleaner and more dimensionally precise parts.

The solution

Previous testing had shown the round and spherical shape of ACCUCAST ceramic media provides better flow properties, and its lower thermal expansion prevents various casting defects. Because olivine is very angular, it requires more energy for flow. In lost foam, the additional energy can lead to deformation of the foam patterns that results in reduced dimensional precision of the final part. Also, the more angular shape and higher thermal expansion of olivine can lead to increased burn-on of the media to the metal casting.

The results

With the use of ACCUCAST ceramic casting media, cleaning costs were reduced, the veining defect was eliminated, burn-on was minimized and the desired casting dimensions were achieved. Also, the higher flow properties resulted in increased production of complex parts.

Project Details

Client: Gray and ductile iron shop

Location: Southern US

Type: Lost foam process

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

Benefits achieved

- High dimensional capabilities
- Part cleanliness: Less burn-on media, resulting in less cleaning room time
- High flow, reduced distortion and quicker fill/compaction time with increased production for complex parts

Fin cleanliness, pre-blast



ACCUCAST reduces the amount of burn-on media between cooling fins

Fin cleanliness, post-blast



Burn-on material is reduced and removed with minimal cleaning efforts

Motor house frames, post-blast



Due to the low thermal expansion of ACCUCAST, tighter dimensional precision is achieved

Internal passage



ACCUCAST produces clean internal passageways, reducing cleaning time by 75%

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