

Ceramic media improves casting quality, reduces production time

Eagle Foundry (Eagle Creek, Oregon) is a jobbing foundry that produces over 13,000 different parts. Using a sodium silicate no-bake process, Eagle pours high-chrome white iron, chrome moly, heat-resistant stainless steel, tool steel, manganese and low alloy steels at temperatures ranging from 2,550-3,000F in castings up to 2,000 lbs. The foundry operation needed to achieve compliance with OSHA silica dust permissible exposure limits (PEL) without compromising product quality, process efficiency or economic performance.

Eagle replaced its entire silica sand system with Carbo Ceramics' Accucast ID (intermediate density) 70 ceramic casting media. The Accucast ceramic casting media is a manufactured product that is chemically inert and compatible with the various resin systems. It is engineered to provide increased thermal stability and pellet strength for greater casting quality and precision, increased media recycle life, and reduced media consumption.

Extensive testing has proven that Accucast ceramic casting media produces no respirable silica dust, so it complies with OSHA's PEL regulation.

After several product cycles to optimize operations for the new casting media, Eagle reported im-



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proved casting surface finish, with castings meeting dimensional tolerance targets.

The foundry experienced reduced resin requirements and eliminated the requirement for additional mold reinforcement and the use of a mold and core wash. Cleaning times were

reduced, in one instance from 50 minutes with sand to 10 minutes with Accucast.

Core and mold wash and physical mold packing were eliminated, cutting full shift man hours for both processes, plus wash drying time. Chemical costs were reduced by around \$110,000 per year, and resin requirements were reduced from 3.75-5.0% with silica sand to 2.5-2.75% with Accucast.

Surface cleaning time was reduced by 87.5%, and this eliminated overtime on grinding and welding, which reduced the wear on grinding wheels and piping. Media reclamation was significantly improved.

Overall media consumption was reduced, which also resulted in reduced disposal volumes and replacement costs. **MC**

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Visit carboindustrial.com for more information.