



HOW TO IMPROVE SEALING EFFICIENCY AND REDUCE SAFETY RISKS IN A BOTTOM POUR FOR FORGING APPLICATION?

#1

Context



Our client is a large steel forging facility that is using steel media to seal the runner and dish tool when making Ingots in a bottom pour application. When bottom pouring of large parts, it creates a lot of pressure in the liquid steel that can be pushed in cracks and gaps between the different pieces.

The objective of using steel grit is to quickly freeze the leaking molten metal. It prevents steel leakage between the trumpet, runner, dish stool and the sprue plate by filling the gaps/edges with steel grit.

The application requires, based on the size of his parts, approximately 100Kg of steel media per pouring. The usage of steel grit can also prevent accidents due to leaks and possible molten steel projection.

#2

Actions



- ✓ Sent many samples of Steel grits and As Casted material.
- ✓ Discussed way to package the material to reduce manipulation and cost.
- ✓ As casted material could be used but too much variation in size was determined by the customer.
- ✓ G18 grit has been found to be best solution for customer.
- ✓ Hardness of the grit has no impact on the application and performance.

#3

Results



Ergonomy

The usage of steel grit versus shots prevents the media of rolling away from the working area



0.6 to 0.2 mm the good size

A grit size between .6mm to 2mm is giving best sealing results. A grit too fine would be flushed away and a grit too large would not seal properly



Less manipulation

Usage of 2MT supersacs reduces manipulation between warehouse and application area



Easier to use

Usage of dispense bins makes it easier to use a shovel versus taking product from a drum

