



DEVELOPMENT PROJECT

Avoiding human error with full automatization of wire feeders

The metallurgical production of ductile iron is complex and puts high demand on the operators in order to keep the process in a specified process window. The target is to deliver a high process stability for every charge and ladle. Together with partners, NovaCast has developed automatic connections between the metallurgical process control system ATAS MetStar and cored wire feeder machines (e.g., Centauro's SFR machine) to give users reliable solutions. This will greatly improve process stability and reduce the workload for the operators.

Here are examples of common issues in the melting shop to achieve process stability with cored wire treatment:

- In many cases, foundries are manually calculating the wire length by using weight, temperature and sometimes Sulphur content, which might not give an accurate estimation.
- Weight and temperature are manually inserted into the wire feeder control panel, which is a risk of human error.
- No information from molten metal (e.g., oxygen content) is available prior to wire treatment.
- Lack of information gives difficulties to achieve process stability with constant residual magnesium.

Together with our partners we have identified the need to increase the level of automatization in production of ductile iron. Below are benefits for using an automatic connection:

- ATAS MetStar is analyzing and optimizing the amount of cored wire addition based on the molten metal condition, weight, temperature and spectrometer results for each batch.
- With above mentioned automatization, the risk of human error is eliminated in the melting shop which will together with other benefits result in better melt quality and constant residual magnesium. This is resulting in reduced scrap rate.
- ATAS MetStar and wire feeder machine connections give the user a highly reliable process traceability which is easy to follow, be proactive and create daily/weekly/monthly reports.
- Less variations, less defect, less problems.

