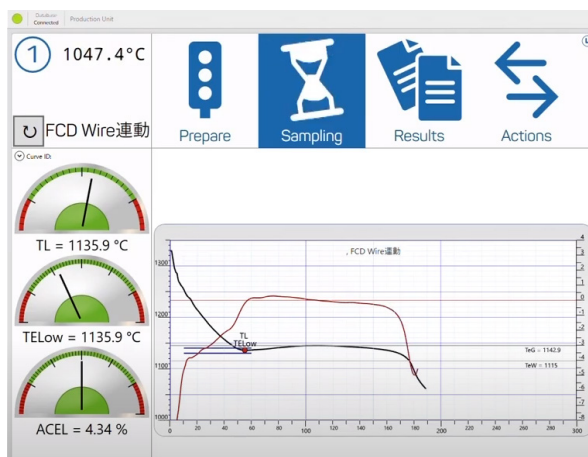




DEVELOPMENT PROJECT

How to solve problems with variations in the melt shop

Problems with melt variations are common challenges for foundries. We teamed up with our partner Japan Foundry Service and the Japanese wire feeder supplier ToyoDenka to find an automated solution to stabilize and optimize the ductile iron treatment and to minimize the human error factor.



Nobuya Yamamoto, Technical Development Manager at ToyoDenka:

“A connection between the wire feeder machine and the metallurgical process control system evaluates reality-based data of the base iron quality. Based on

this data, the system suggests the optimal amount of Mg wire to automatically add for the final iron.”

A sample of the melt is taken and analyzed using ATAS MetStar, which evaluates the composition and suggests the optimal length of the magnesium wire to add. All the operator needs to do is to confirm the result in ATAS MetStar. The action is transferred via PLC to the wire feeder machine and tapping can start.

Mitsuki Kondo, Deputy Director of Production Department at Sugiyama:

“Even if the quality of the base iron isn’t stable, the ATAS MetStar evaluation in connection with the wire feeder machine stabilizes the final iron and minimizes the scrap.”

Another minimized risk is shrinkages or chill defects thanks to adding the optimal amount of Mg wire, which means that errors due to manual calculations are heavily reduced. A foundry’s cored wire process is highly optimized and more environmentally friendly as less variations = less defects and scrap = less resources used.