CUSTOMER CASE

Lyrestads Gjuteri and their perfect melt

Lyrestads foundry is a subcontractor founding cast iron for tool and machine manufacturers. A small part of their business is to make exclusive ornamental products and details for e.g. listed buildings. Until 2008, Lyrestads used thermal analysis for their melts, but that instrument broke down in 2008 which put the company in an immediate crisis.

Luckily, NovaCast had installed their new product ATAS* at Lyrestads to test the system, beside Lyrestads' old thermal analysis. This enabled Lyrestads to make a swift replacement to ATAS in 2009 for the crucial metallurgical analysis. ATAS (Adaptive Thermal Analysis System) MetStar is NovaCast's metallurgical process control system for analyzing, stabilizing and optimizing the production process of the alloy – in short, to analyze physical samples from the melts and, based on the data, define and suggest adjustments to obtain the desired quality. The benefits for Lyrestads turned out to be much larger than they had expected, says Peter Stridkvist, owner and CEO at Lyrestads.

*=The present version is called ATAS MetStar and was released in 2012.

"At the time it was the best investment for our development, to secure the quality of our iron – although we didn't know this back then. We just bought it as a basic production tool to get rapid results and a

FACTS & FIGURES	
Company:	Lyrestads Gjuteri AB
Location:	Lyrestad, Sweden
Website:	lyrestadsgjuteri.se
Alloys:	Irons
NovaCast products:	ATAS MetStar
	Consumables
Employees:	13
Annual volume:	400 tons iron
Revenue:	14 MSEK

reasonably good analysis."

Lyrestads uses ATAS to analyze and optimize all their melts. In their production they use 95% recycled material, and their portfolio includes 5 basic different iron qualities that they cast, depending on their customers' needs. Based on a pre-defined desired thermal curve for each iron quality, they take samples of each melt in measure cups connected to the ATAS software. Then the software presents a curve showing what they need to add to get the perfect "mix". Peter Stridkvist concludes that the use of ATAS has resulted in substantial savings for the

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company.

"The primary benefit for us is that we secure a consistent quality of our melts, and ATAS is a great tool that helps us reduce the scrap rate. We hardly get any complaints from customers anymore. We have moved from a calculated scrap rate of 5–7%, to less than 1%, thanks to ATAS. Based on our turnover of about 14 MSEK, we save at least 250 000 SEK every year."

Peter Stridkvist's father started Lyrestads in 1955 and Peter entered the business in 1978, after senior high school where he graduated as a foundry casting engineer. So Peter knows all about the complexity in iron casting, where different results can depend on very subtle factors like humid or rainy weather. Historically, the melting skills were also based to a large degree on the oven operators' gut feeling and experience.
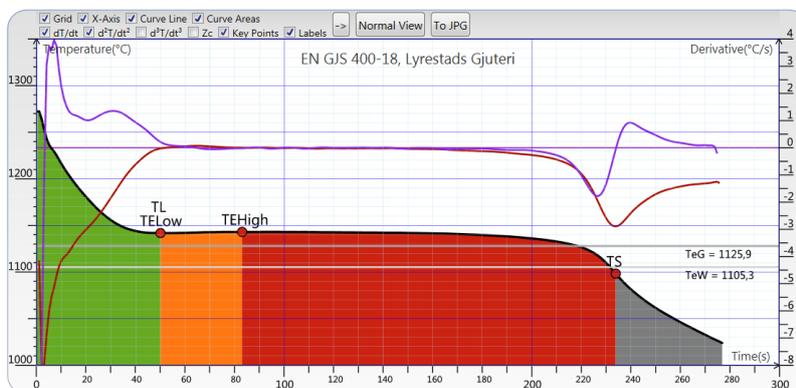
"In the past, we knew that we did things pretty well, but we could not prove or pinpoint exactly what we did right. With ATAS we continuously learn from the system and our knowledge about what works is based on facts. ATAS also saves all our statistics, which means that we can fine-tune our process to further improve the quality and consistency of our iron."

Besides the advantage of traceable statistics and results, ATAS clears the database from incorrect curves that obviously are because of some kind of mishap. Peter really appreciates the collaboration with NovaCast, where they can get help with advice and consultation when they run into problems or puzzling results.

"Not only do we get a great quality tool – we also have access to NovaCast's expertise, which we often use to get advice and help with adjusting our curves. With their experience, they're extremely good at seeing what's wrong and quickly answer our questions. They're also easy to get in touch with and always ready to help out with quick response and connected meetings to discuss our results."

Peter also thinks that ATAS is important in their ambition to move towards more advanced casting.

"With a better and more consistent quality in our iron, we can fulfill our aim to make more advanced products where NovaCast's simulation program also might be interesting for us. It's a big advantage then, that we already have ATAS and its extensive database from our melts."