

## Hussey Copper Improves Production Rates and Refractory Life with Messer's Technology and Process Experience.

Hussey Copper has been a fully integrated producer of high-quality copper and copper alloys in Leetsdale, Pennsylvania for decades. The facility melts, casts, and fabricates primary metal and delivers finished electrical, architectural and construction components for many industries.

Responding to increasing demand for its high-purity products, Hussey Copper wanted to improve the production rate and refractory life of its Copper Reverberatory furnace. It turned to the Messer team, who has been providing Hussey Copper with industrial gas and combustion technology for over 25 years.

Hussey Copper and Messer combustion specialists conducted a detailed, three-month evaluation of their copper melting process.

"Working with Messer was a collaborative process," said Hussey Copper Senior Process Engineer Ray Ribar. "We appreciate and continue to benefit from their combustion experience, process know-how and burner technology."

The Messer team visited the facility several times to audit each step of the melting and refining process. Messer calculated theoretical energy consumption and melt efficiencies and compared it with the actual data to identify potential improvements. Multiple burner placement and combustion design scenarios were evaluated based on Messer's Computational Fluid Dynamics (CFD) model. These simulations and Messer's recommendations helped Hussey Copper decide to reposition Messer's proprietary OXIPYR® burners and achieve a more uniform heat distribution. Adjusting the burners resulted in higher melt rate, reduced energy usage and refractory wear.

"From Messer's assistance with burner repositioning," said Ribar, "we've seen a significant increase in production and refractory life."

### Testimonial:

"To meet the increasing demand for our copper products, we needed to improve refractory life on our Melting Furnace. Working with Messer was a collaborative process. From Messer's assistance with burner repositioning, equipment tuning, melting know-how, and process optimization, we've seen a significant improvement in refractory life and daily operations."

Ray Ribar, Senior Process Engineer, Hussey Copper



*Working with Messer's combustion team, Hussey Copper increased production and refractory life by repositioning its OXIPYR burners.*

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