

# *SUPERIOR*

# NEWS

## FOR IMMEDIATE RELEASE

July 2009

Florence, SC

Superior Machine Company (**Superior**) has just completed the revamp of the second of two twin-shell electric arc furnace (EAF) batteries resulting in increased productivity and lower power consumption at Steel Dynamics, Inc.'s (SDI) Butler, Indiana flat roll facility. SDI had contracted **Superior** in January 2008 to revamp both of their twin shell EAF batteries to:

- Increase scrap charging volume by approximately 2,000 cubic feet
- Allow a single scrap charging sequence
- Increase their retained liquid steel "hot heel" from 22 tons to 70 tons
- Increase slag space allowance from 12 inches to 19 inches

**Superior** applied a radical approach to the challenge posed by SDI and designed a solution that combined a 5'-0" increase in overall shell height, a deeper bottom shell and a relocation of the slag door breast.

The first of the USA-manufactured equipment was delivered from **Superior** facilities in the summer of 2008 and conversion of the first twin-shell battery was completed by **Superior** field service crews in September 2008. SDI took immediate advantage of the increased furnace volume to fully charge the "off side" shell while the powered shell was melting. This practice eliminated the necessity to cut furnace power and open the roof for a second scrap charge that the original furnace design required.

The increased slag space allowance allowed SDI to run longer arcs that are buried in the deeper, foamed slag. The deeper hot heel put SDI in their operational "sweet spot" from the beginning of their furnace campaign.

"The results were everything we wanted and more," said Ricky Rollins, SDI's Melting Manager. "We had the expected learning curve but we weren't 2 weeks into operations when our crews were starting to see the potential for new records," Rollins added.

The results were so great that even with the industry operating at 50% capacity, SDI gave SMCO the release to install the second battery's equipment in the summer of 2009.

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With both batteries now operational, SDI is seeing over a 5-minute decrease in tap-to-tap time and 15 – 25 kWh/ton less power consumption.

Superior Machine Company of SC, Inc. is a privately held company with facilities throughout the U.S. **Superior** serves the steel and aggregate industries with engineering, fabrication, machining and field services.

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