

## Case Study #2

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**The following series of slides document the results of using Redux EF40L fluxes at 15 International Foundries to eliminate slag buildup on refractory walls of coreless induction furnaces, extend refractory life and clean ladles. Additional details on increases in refractory life are presently not available because of the COVID-19 pandemic.**

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**Case Study 2- REDUX EF40L**  
**Objective: Clean slag build-up from**  
**Coreless Induction furnace walls**



**REDUX EF40L at International Foundry “B”  
Producing Grey and Ductile Iron Castings**

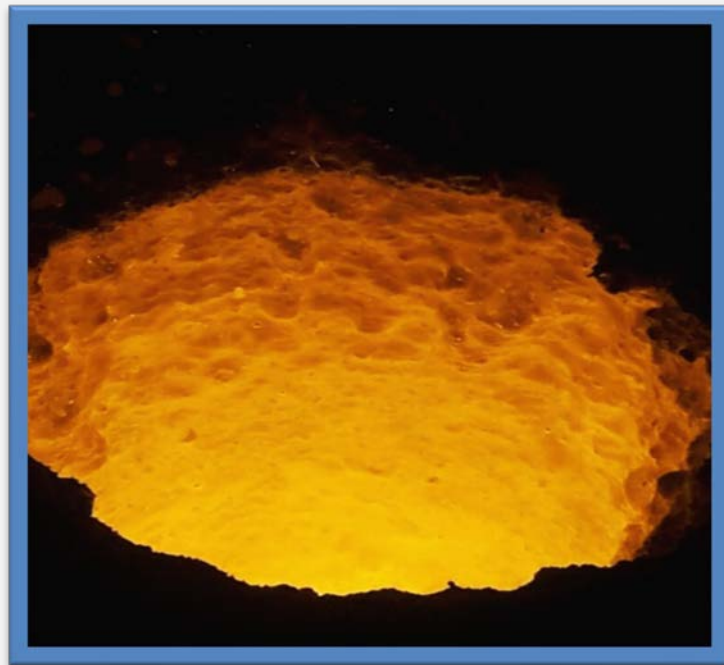


# BACKGROUND FOUNDRY B

- **Daily insoluble build-up was depositing on the furnace walls of induction furnaces and resulted in a loss of melting capacity**
- **Additions of glass were made to the furnace in order to clean the daily insoluble build-up, but this resulted in decreased lining life**
- **The build-up of slag on the furnace side was created an unsafe work practice of chipping to clean slag from the furnace walls, and potentially causing premature refractory wear and possible failure.**



# CONDITION OF THE FURNACE BEFORE THE TRIAL



# Test Conditions

- **Furnace type – Medium frequency Coreless Induction Furnace**
- **Capacities – No. 1 Furnace: 1 MT, No. 4 Furnace – 500 kgs**
- **Plant capacity – 1200 Tons/Month**
- **Average Lining life – 300 heats**

Test No.	Furnace Details		Charge material details (Kg's)				Redux additions in Furnace	Tapping Temp.
	Furnace No. 4	Heat No	CRC STAMPING	Pig iron	Foundry Returns	Cast Iron chips		
1	500kg	5	200	75	100	150	260 grams	1580°C
2.	500kg	6	200	75	100	150	260 grams	1585°C

- **Additions of 0.05% Redux (260 grams) to the furnace midway through the charging cycle**



# Furnace Condition after addition of Redux EF40L



After 1<sup>st</sup> heat



After 2<sup>nd</sup> heat



## Summary and Conclusions

- **Furnace walls were cleaned of slag buildup in just 2 heats.**
- **Foundry B was impressed and extremely satisfied with the performance of Redux EF40L**
- **Foundry B plans to continue to use Redux in the future**

