

Case Study #1

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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.

By
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Case Study 1- REDUX EF40L
Objective: Clean slag build-up from
Coreless Induction furnace walls



REDUX EF40L at International Foundry "A"
Producing Grey Iron Castings



Redux EF40L Test Conditions

- Metal Grade - Grey Iron
- Item Name – Differential Housings and 3 Cylinder Engine Blocks
- Furnace Capacity - 7 Metric Tons
- Furnace Number - 1
- Heat No - 308

Redux EF40L Trials were conducted the furnace:

- Redux addition level - 0.05% of metal based on treated metal weight, i.e. 3.5 kg per heat of 7 Metric Tons.
- Half of the 3.5Kg of Redux was added with 50% of the charge, and the balance after melting started.



Trial Conditions:

Trial No	Induction Furnace Details		Charge material details (Kg)			Kg's of Redux addition in Furnace	Tapping Temperature
	I/F	Heat No	Steel	Pig Iron	Foundry Returns		
1	7000kg	308	4000	670	2410	3.5 Kg	1532°C
2	7000kg	309	3920	710	2430	3.5 Kg	1537°C
3	7000kg	310	3850	680	2526	3.5 Kg	1538°C



Furnace Conditions during REDUX EF40L trials:



Initial Condition of the Furnace



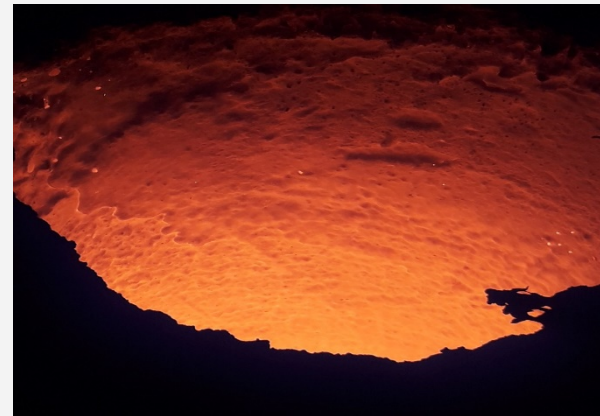
Furnace Condition after 1st Redux Addition



Furnace Conditions after REDUX EF40L trails:



Furnace Condition after 2nd Redux Addition



Furnace Condition after 3rd Redux Addition



Results & Conclusions from Redux EF40L Trial

- **Furnace was mostly clean and free from slag buildup after just one Redux EF40L addition, a second and third addition of Redux appeared to remove all slag buildup**
- **Foundry A was very satisfied with the performance of Redux EF40L.**
- **Shared Redux proposal with customer regarding availability of additional Redux EF40L for prolonged test run but the COVID 19 pandemic has prevented further test runs.**

