

PROCESS FOR SIGNIFICANT ELECTRICITY COST SAVINGS IN FERROCHROME PRODUCTION

A novel chromite pre-treatment process complementing existing ferrochrome plants in South Africa, resulting in significant cost savings.

Technology Overview

The invention relates to a novel process of partial oxidation of un-agglomerated chromite ore in ferrochrome production processes.

The process includes the steps of:

- (i) Providing a source of un-agglomerated chromite ore.
- (ii) Subjecting the source of un-agglomerated chromite ore to pre-oxidation at a temperature of 700 °C to 1100°C, both values inclusive.
- (iii) Controlling the above-mentioned pre-oxidation temperature such that maximum migration of iron (Fe) to the surface of the chromite ore particles takes place and minimum Cr_2O_3 formation takes place.
- (iv) Forming a pre-oxidized source of un-agglomerated chromite ore wherein maximum migration of iron (Fe) to the surface of the chromite ore particles takes place, as well as minimum Cr_2O_3 formation takes place.



Technology Benefits

Significant reduction in electricity consumption and costs.

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Market Opportunity

The process can achieve significant reductions in specific electricity consumption spent during ferrochrome production processes.

This would have a clear effect on the bottom line of smelter operations.

Project status

Patents granted in:

- South Africa
- Zimbabwe
- Canada

PCT (Patent cooperation treaty) also filed.

Currently seeking licensees or purchasers for the technology.

