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Blast Furnace Burden Distribution Control with 3 Parallel Bunker Bell-less Top Using Large Amount of Small-Sized Sinter

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17%

Synopsis :

A three parallel bunker bell-less top was installed at Mizushima Works' No.3 blast furnace for the third campaign in order to employ highly sophisticated burden distribution control techniques. The burden distribution control techniques make it possible to increase the rate of small-sized sinter with the multi-batch charging as the two-size fraction charging of coarse and fine sinters and the vertical coke charging. The authors have introduced a new type of top bunkers, which has strengthened the radial size distribution of coke and ore, and the real-time control system, which has enabled the constant flow rate during charging as well as the precise charge and control. Through these burden distribution measures, 18% small sinter has been stably charged at No.3 blast furnace.

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3パラレルバンカー型ベルレス装入装置による 細粒原料多量使用時の高炉装入物分布制御*

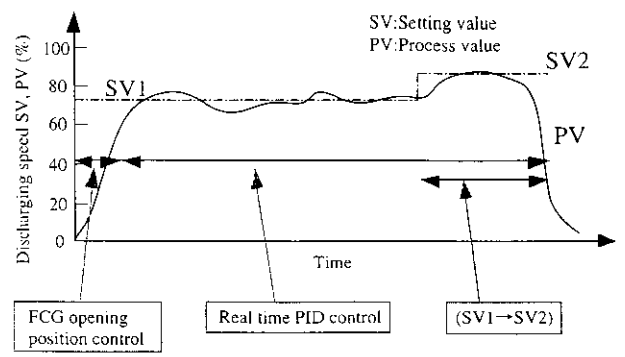
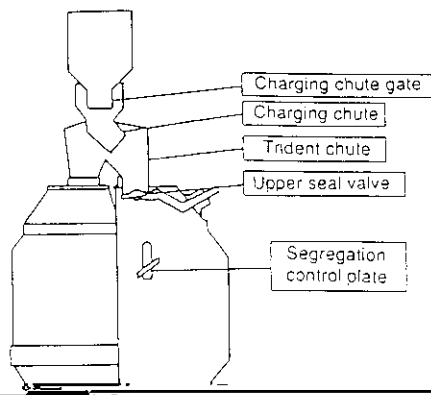
川崎製鉄技報
25 (1993) 4, 253-257

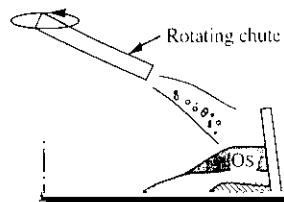
Bell-less Top Using Large Amount of Small-Sized Sinter



要旨

水島製鉄所第3高炉は3次改修において、高度な装入物分布制御を実現するために3パラレルバンカー型ベルレス装入装置の導入を行った。本装置により原料中細粒多量使用時の高炉装入物分布を





序について、以下にその考え方を述べる。

3.2 コークステラス長さの管理

Fig. 8 には 2 バッチ装入時の代表的なベルレスパターンにおけるシミュレーションモデルを用いた鉱石の積み付け状況の比較を示

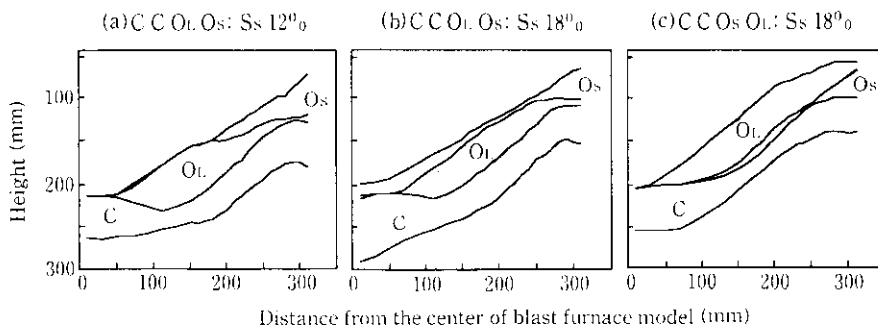


Fig. 9 Results of burden distribution by 1/16.5 model

能と考えた。

したがって、S_s多量配合に伴う中心流の低下現象には C₁C₂O₃O₁ 装入への鉱石装入順序の変更により、ガス流分布の作り込みを実施するものとした。

| Charging pattern | C C OI Os | C C Os OI |
|------------------|-------------|-------------|
| Ss ratio | (a) 12% | (c) 18% |
| | 5 4 3 | 5 4 3 |

