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Closed System of Dust Treatment for Clean Iron and Steel Works Construction and Operation of Chiba No.2 In-Plant Dust Reducing Plant

(Yoshio Saito) (Hiroshi Takahashi)

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Synopsis :

Not too long ago, the utmost from of utilizing in-plant dust collected at steelworks for environmental protection purposes was a limited recycling of the dust to the sinter plant. In a new method developed by Kawasaki Steel for a complete dust recycling, the dust is transported through a closed slurry pipe system or by tank lorries for reduction in the rotary kiln. The No.1 in-plant dust reducing plant has been operating since 1968. Another one was constructed in 1977 to cope with the increasing amount of dust collected. Rotary kiln, the main installation of the plant, has a 5m diameter and a 55m length with a maximum dust treatment capacity of 1000t/d. Reduced pellets are utilized as an excellent blast furnace feed, with a 90% and over metallization ratio and a 200kg or more crushing strength.

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656.1/.7:621.928.9.002.67

クリーン製鉄所におけるダストクローズドシステム
——千葉No.2還元ペレット設備の建設と操業——

Closed System of Dust Treatment for Clean Iron and Steel Works
——Construction and Operation of Chiba No.2 In-Plant Dust Reducing Plant——

斎藤良生* Yoshio Saito
高橋宏** Hiroshi Takahashi

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[redacted]

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2. 設備概要

し，パン型造粒機で8～16mmのグリーンボールを造る。

製造工程をFig. 1に，主要設備の仕様をTable 1

Table 1 Main facility specification

Item	Specification	
Thickener	Size	18mφ×2
Tube press filter	Pressure	105kg/cm²
	Unit	21
	Cake moisture	20%

焼結鉱の原料とする。＋5mmは磁選機で未燃分のコークスと還元ペレットに分離する。コークスは還元剤の一部として再使用する。

3. 設備の特徴

No.2還元ペレット製造設備は、従来のNo.1ペレ

Table 2 Slurry transportation facility specification

Diameter of slurry pipe	100mmφ×2

Table 5　Operation data in 1977

	Sep.	Oct.	Nov.

決のため，クローズドシステムによる循環再生処理，すなわちロータリーキルンによる還元ペレッ