

Sinter operation Control System with Artificial Intelligence

(Takumi Fukagawa)  
Okuyama)

(Syunji Iyama)

(Masayoshi

---

Synopsis :

At Nos. 3 and 4 Sinter Plants of Kawasaki Steel's Mizushima Works, a sinter operation control system with a diagnostic expert system has automated its sintering plant operation. Control functions include burning through point (BTP) control at 1- and 5-min cycles, equipment protection, sintered ore production control, and quality control. Software structures include expert rules (about 500 rules) and FORTRAN program (about 11 K steps). The expert system has achieved reduction by half of BTP dispersion and highly stabilized production quality.

(c)JFE Steel Corporation, 2003

Sinter Operation Control System with Artificial  
Intelligence

要旨

水島製鉄所の第3, 第4焼結工場に診断型エキスパートを用いた

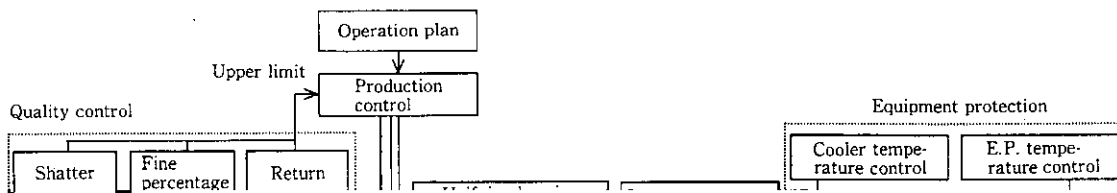
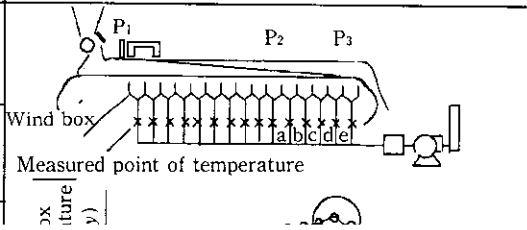


Table 1. Definition of actual BTP

	Definition	
BTP	Burn through point which is end point of sintering (point P3)	 <p>The diagram illustrates a sintering furnace. On the left, a 'Wind box' is shown with a fan symbol. A horizontal tube contains a sintering bed, represented by a series of vertical lines. Three points are marked along the top of the tube: P1 at the inlet, P2 in the middle, and P3 at the outlet. Below the tube, a 'Measured point of temperature' is indicated by a vertical line with an asterisk. A coordinate system is shown at the bottom left with axes labeled 'x' and 'y'.</p>
BTP <sub>A</sub>	Actual BTP which is expressed x-coordinates of top of approximate equation (1)	
	Long time radiative BTP which is usually 1	

