

KAWASAKI STEEL GIHO

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Progress of Equipment Diagnosis Techniques at Kawasaki Steel Corp.

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Synopsis :

This paper reports on the development and application of Kawasaki Steel's equipment



Progress of Equipment Diagnosis Techniques at

Kawasaki Steel Corp.

要旨

本誌に掲載された設備診断技術に関する論文の要旨を、適用の経緯について述べ

2 設備管理のあるべき姿と設備診断技術

る (Fig. 1 の “Direction of Equipment Management Progress”)。
したがって、設備管理のあるべき姿として、生産設備管理機能を
右図のとおり強化していくべきである。

図 1 設備診断技術のあるべき姿

能の明確化や、故障物理などの工学的裏付けに基づいた設備の研

Table 1 History of plant management

	~1950	1950's	1960's	1970's	1980's
History of plant management in Japan	Breakdown maintenance	Preventive maintenance	Productive maintenance	Total productive maintenance	Predictive maintenance
Type of maintenance		Time-based maintenance		Condition-based maintenance	
Kawasaki Steel's history		Establishment	Introduction of concept	Reformation of maintenance	Development of diagnostic technology

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Development	<ul style="list-style-type: none">• Diagnosis of roller and motor by vibration method• Crack depth measurement	<ul style="list-style-type: none">• Diagnosis of low speed rotating machine• Diagnosis of oil film bearing by AE	<ul style="list-style-type: none">• Diagnosis of chimney and torpedo car by thermoview
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Table 3 Major items in on-line diagnosis systems

Plant Item	Sintering Plant	Blast Furnace	Continuous Casting Machine	Hot Strip Mill	Continuous Pickling Line	Tandem Cold Rolling Mill	Continuous Annealing Line
	<ul style="list-style-type: none"> • Blower, pump • Vibrating screen • Belt conveyor 	<ul style="list-style-type: none"> • Bell-less device • Conveyor pulley • Hydraulic 	<ul style="list-style-type: none"> • Lubricant system • Hydraulic oil system level • Grease system 	<ul style="list-style-type: none"> • Mill drive • Pinion stand • Mill motor, pump 	<ul style="list-style-type: none"> • Looper separator • Tension device 	<ul style="list-style-type: none"> • Mill drive • Mill motor • Pump, reel • Hydraulic & 	<ul style="list-style-type: none"> • Hearth roll • Fan, blower