

Defects Detection Systems in Billet Mill

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Synopsis :

Defects detection systems have been brought into operation with the rationalization of billet production process in Mizushima Works, aimed at obtaining the quality information of an individual billet and also accumulating the information for an analysis to improve quality of the billet. These systems involve defect detection devices which are interfaced directly to a process computer to realize a fully automatic operation. They are distributed in the billet mill according to their characteristics. Quality information is available in the billet mill through defect maps, specifying the position of a defect and the signal intensity as well, which are edited from defect data gathered by defect detection devices, by utilizing such automation technology as fully automatic operation and fully individual control. The fundamental idea of the systems, the features and functions of each device, and approaches to production with better quality were also explained in this paper.

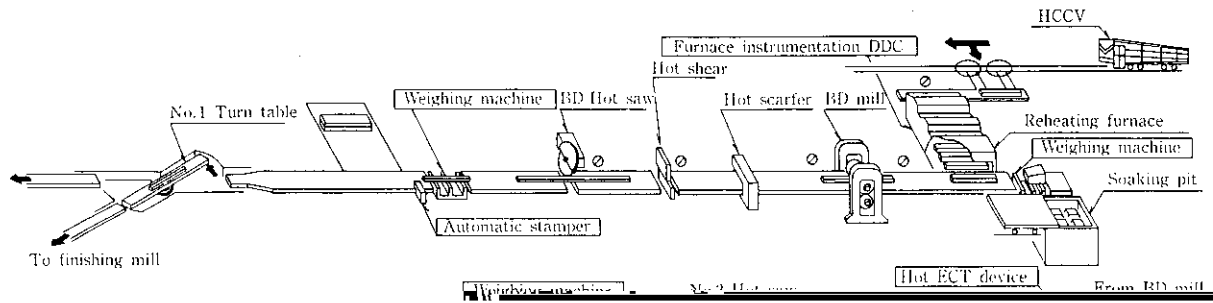
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要旨

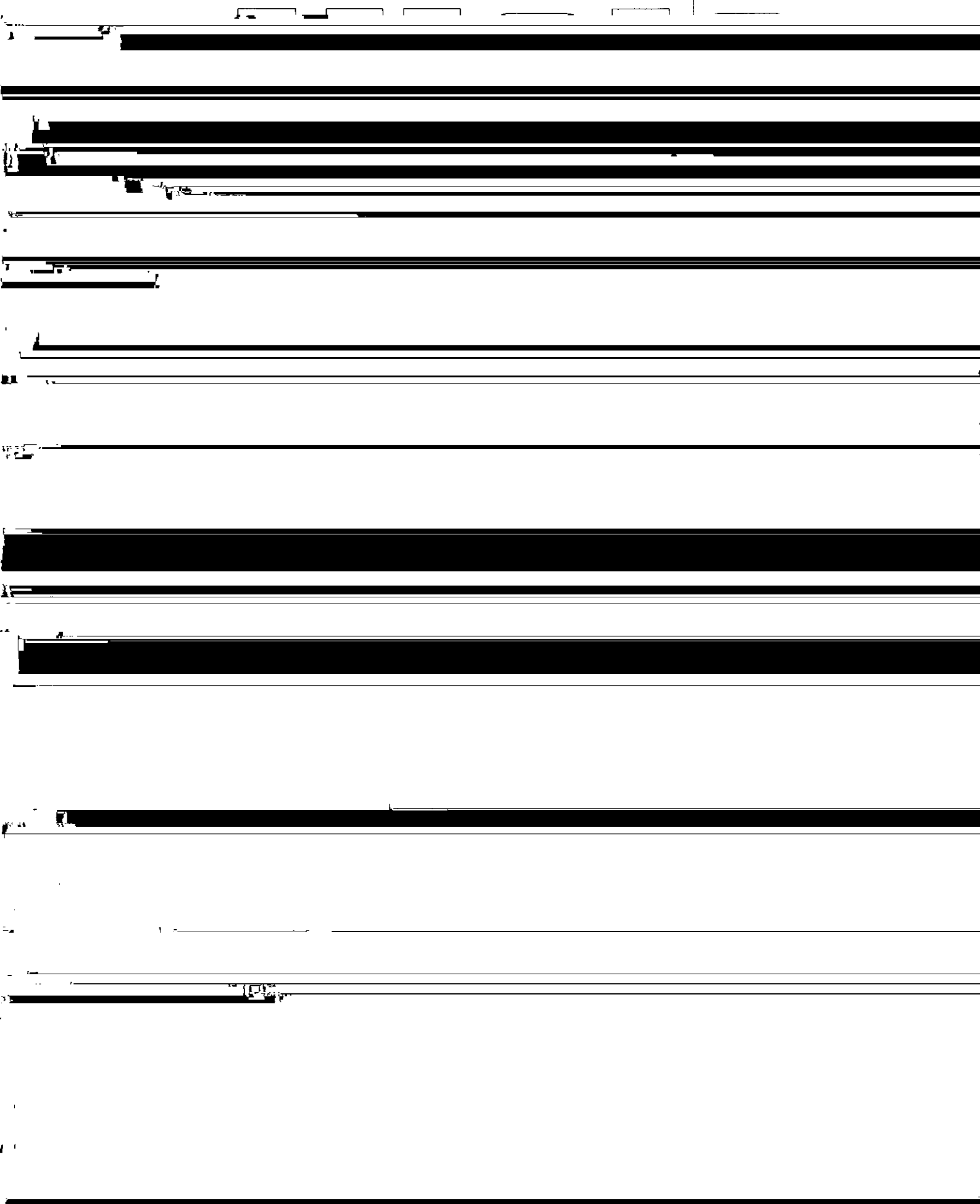
水島製鉄所では、条鋼用素材合理化にともない、鋼片1品単位で品質情報の把握・蓄積のできる探傷システムを鋼片工場に開発し、そのシステムは、今内製鋼部で設置したほか探傷装置の設置機

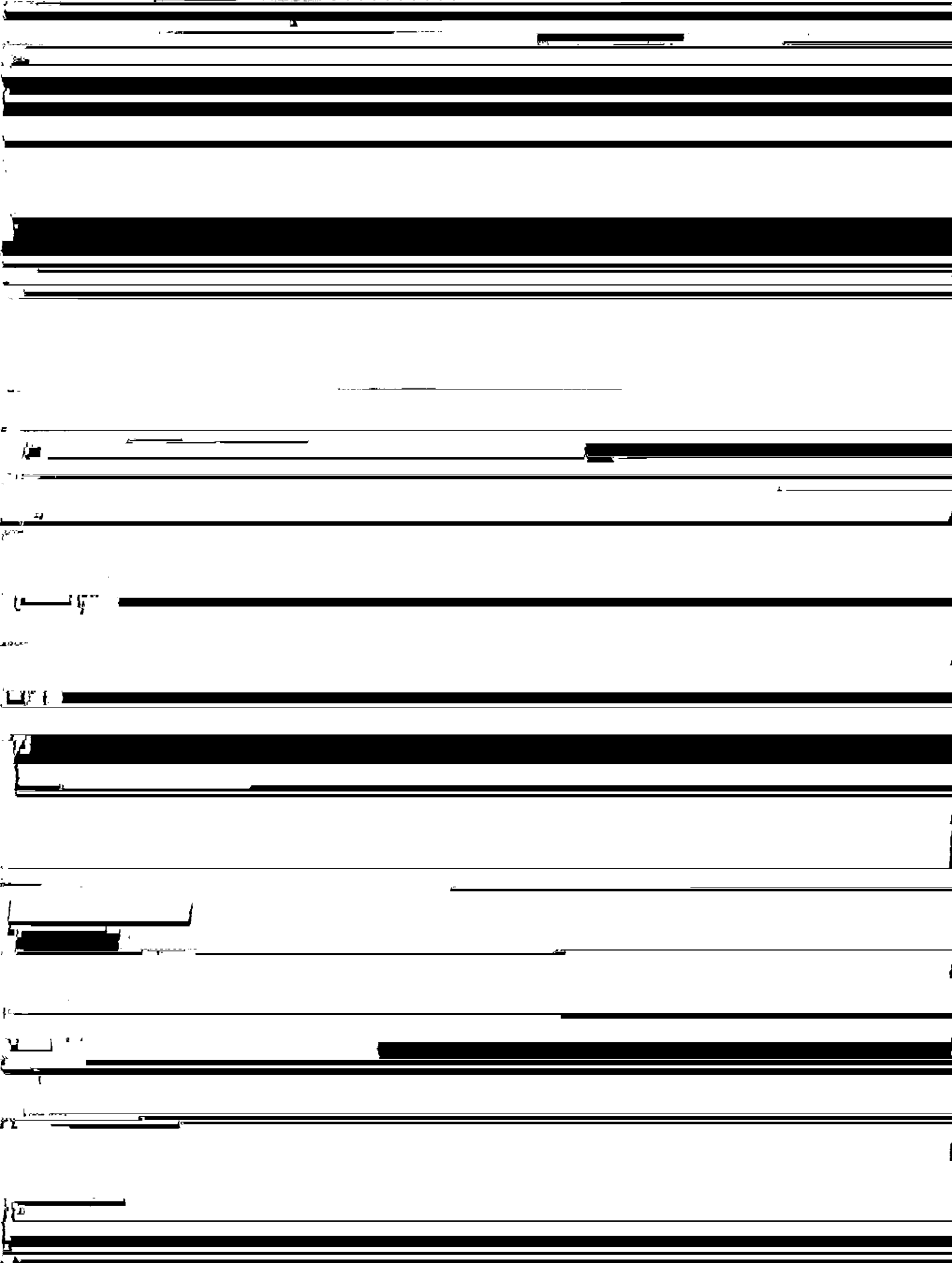




150 × 150 mm²

Bar & rod
mill





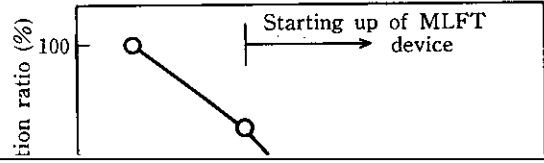
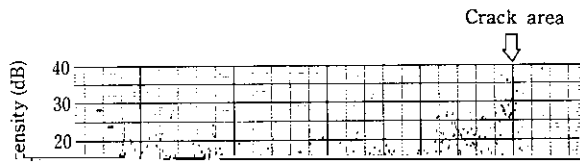
Maintenance

めと研削パス回数の決定)して、全自動手入力を可能としている。



Table 8 Specifications of AUT device

Item	Specifications
Type	Material rotating type
Method	Water gap method
Detecting area	Total area of the section
Sensor arrangement	Number of channel: normal 4 angle (+) 4



5 結 言

術である。

さいわいに、鋼片工場は、新設設備であるため建設当初から品質

品質の作り込みを志向した鋼片工場の探傷システムについて、その概要と、センサとしての探傷装置ならびにその利用方法について述べた。

組むことができた。従来もオペレータの観察に基づいて、品質向上の努力がなされてきたが、これを、可能な限り自動化、効率化しようとするのが本システムである。探傷装置自体の特長も考慮して

高品質の製品製造のためには、探傷装置は品質管理用のセンサと

利田オスオレカ基本レ1)であるが、探傷装置の検出精度、レノア深