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Development of Online Hot Profile Gauge for Accurate Dimension of Hot-Rolling
H-shapes

"& £ §4{(Niro Katayama) '0 ¿ •((Yoshinori Anabuki) .(• R §(Youji
Fujimoto)

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Synopsis :

Customer demands have recently risen sharply for highly dimensionally accurate H-shape steel products (H-shapes), which have excellent cross-sectional performance as structural material, in order to reduce construction costs. The H-shape mill at Mizushima Works of Kawasaki Steel, has positively installed online profile gauges at every important points of the processes at rolling, finishing and delivery sections, for achieving a stable production of high quality H-shapes. A newly developed online hot profile gauge, which can measure the accurate cross-sectional profile and dimension of H-

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for Accurate Dimension of Hot Rolled H-Beam

要旨

構造材料として優れた断面性能を有する H 形鋼は、近年、サイ

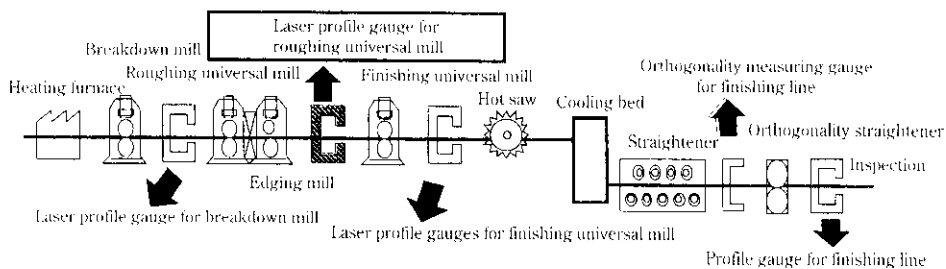


Fig. 2 Layout of continuous on-line measurement devices for H-shapes

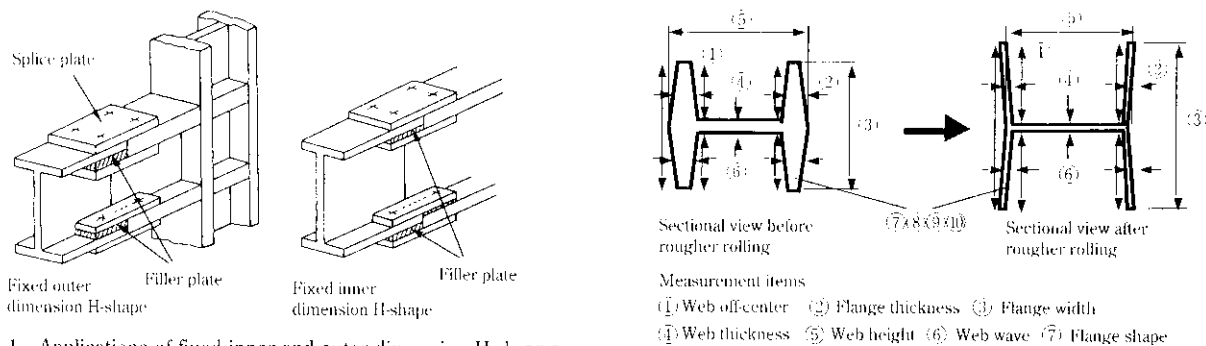


Fig. 1 Applications of fixed inner and outer dimension H-shapes

Fig. 3 Measurement items of laser profile gauge

2 開発の目的と仕様

2.1 外法一定 H 形鋼の特徴と製造方法

Table 1 Specifications of measurement accuracy (2σ)

Items	Specifications (mm)
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P.



(1) Diode source

AI



(9) フラッシュ部を正確に測定するためのフライング機構の検討、機

6 結 言

構を考案した。この機構のために、多サイズ・多パスの H 形鋼

圧延中の H 形鋼断面の寸法および形状を、全数・全長に渡ってリアルタイムに測定可能な H 形鋼熱間寸法測定装置を開発した。

(3) 形状が複雑で測定部位が多く、かつサイズ範囲も広い H 形鋼に対し、形状全データを測定した後に必要寸法をリアルタイム