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PEOPLE'S REPUBLIC OF CHINA**

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Shape closed-loop control systems for cold rolled strip

冷轧带材板形闭环测控系统

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Foreword

This standard is drafted according to the rules given in GB/T 1.1-2009. This standard by the National Standardization Technical Committee metallurgical equipment (SAC/TC409) centralized. This standard was drafted unit. National cold-rolled strip equipment and process engineering technology research center, Yanshan University. The main drafters of this standard. Liu Hongmin, Wang Junsheng, Yang Li Po, Zhang Yan, Peng Yan, Wang Dongcheng, Cao Zhonghua, Sun Jianliang, Zhang Yongshun, Huaxin. Cold rolled strip shape closed loop measurement and control system

1 Scope

China's national standard for the closed-loop shape measurement and control system on a cold strip rolling mill. Shape, in strip rolling, means the distribution of length across the width: if the edges are longer than the centre the strip has wavy edges, and if the centre is longer it buckles into a centre wave. The strip is elastic enough that these differences are invisible while it is under tension on the mill and become obvious the moment it is cut. Since flat strip is what the customer is buying, and since a modern mill runs at twenty metres a second, the control has to be closed automatically: a shape roll measures the tension distribution across the width in real time, and the system responds by bending the work rolls, shifting them, tilting the stand or adjusting the zone-by-zone cooling that changes the roll's thermal crown. Getting this right is what separates a mill that can sell into automotive and appliance markets from one that cannot.

This standard specifies the cold strip strip closed-loop control system structure, technical requirements and system testing. This standard applies to cold-rolled strip mill, flat-plate machine closed-loop control, other types of rolling equipment, flat-shaped closed-loop control can refer to use.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 8541 forging terminology

GB/T 34902 cold strip contact with the shape meter

JB/T 7807 rolling machine terminology

3 Terms and definitions

GB/T 8541, GB/T 34902, JB/T 7807 and defined by the following terms and definitions apply to this document.

3.1 Measured flatness signal measuredshapesignal Shape meter output after the measurement of noise and error compensation can reflect the state of the online plate shape effective signal.

3.2 Shape pattern recognition shapepatternrecognition A complex plate-shaped curve is decomposed into 1, 2, 3, 4 and higher plate-shaped components or plate-shaped pattern, and then integrated into them Linear combination.

3.3 Flat target curve shapestandardcurve Flat standard curve In order to consider the rolling process requirements and follow-up processing requirements and the development of the shape control target curve.

Note. During the process of plate shape control, the measured plate shape curve is approximated to the plate shape target curve by comprehensively using various plate shape control measures, even though the measured plate shape approaches the target Shape.

3.4 Shape control means shapecontrolmeans Can effectively change the shape of the roll gap, strip shape state of the mechanical device, there are inclined roll, bending roll, traverse roll and segmented cold But roll and so on.

3.5 Shape control efficiency shapecontrolefficiency The amount of change in the unit change of a plate-shaped control means the amount of change caused by the plate-shaped components or the strip shape at each point in the horizontal direction of the strip.