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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 13313-2008

Replacing GB/T 13313-1991

Methods of shore and leeb hardness testing for rolls

轧辊肖氏、里氏硬度试验方法

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Foreword

This standard replaces GB/T 13313-1991 "roll Shore hardness test." This standard GB/T 13313-1991 and main technical differences are as follows:

- Name changed to "roll Shore, Leeb hardness test methods";
- Normative references made additional adjusted;
- Added Leeb hardness representation, test methods, and test equipment, test rolls, the data processing requirements of the test report;
- Increased the hardness, the hardness of the block requires the detection of high smoothing roll;
- Clear hardness, according to the hardness test blocks;
- Tested improved the hardness of the surface roughness of the roll test requirements;
- Consider the cold, the impact of thermal processing on the sample surface hardness;
- Increased its test site environmental requirements;
- Barrel diameter of 300mm or less roll, roll body determined to test bus number 2; the barrel diameter greater than 300mm, less than Equal to 500mm rolls, an increase of a barrel test bus;
- For the distribution of the test bus made provisions;
- Adds forged steel, cast iron, cast steel rolls HSD-HLD hardness table;
- Hardness of no more than everyday use than the pair of rollers, to standard hardness block;
- Deleted the original standard in Appendix A "C type Shore hardness tester main technical parameters," Appendix B "E-type Shore hardness tester main technical parameters Number ", Appendix C" than the roll main technical parameters ";

1 Scope

GB/T 13313-2008 is the Chinese national standard on methods of shore and leeb hardness testing for rolls, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 11 September 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2009. Classification: ICS 77.180, CCS H94. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the roll Shore hardness Leeb hardness and representation, test methods, test equipment, test rolls, data processing, test Reporting requirements and hardness conversion tables. This standard applies to all types of forged steel, cast steel and cast iron roll and a Shore hardness Leeb hardness measurement.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 1172-1999 ferrous metal hardness and strength conversion value

GB/T 4341 metal Shore hardness test

GB/T 8170 numerical rounding rules

GB/T 17394-1998 Metal Leeb hardness test JJG346 Shore hardness tester JJG347 standard Shore hardness block JJG747 Leeb hardness tester

3 Test principle

3.1 Shore hardness test principle Calculate the ratio Shore hardness values. The formula of formula (1) below. (1) Where. HS

--- Shore hardness; K

--- Shore hardness factor.

3.2 Principle Leeb hardness test A predetermined quality impact body under the force of

the impact surface of the sample at a constant speed, punch in the rebound from the surface speed at 1mm The ratio of the impact velocity is calculated hardness values. The formula of formula (2) below. $HL = 1000 \frac{V_p}{R} \frac{V_p}{A}$ (2) Where. HL

--- Leeb hardness; V_p R

--- rebound velocity of impact body; A

--- v_p impact body impact velocity.

4 Represents the hardness values

4.1 Shore hardness values Before Shore hardness symbol HS shows hardness values shown in the HS hardness scale type.