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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Test method for the penetration strength of cast iron

铸铁楔压强度试验方法

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Foreword

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA ICS

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Test method for penetration strength of cast iron 1 Scope

This Standard specifies the penetration strength test principle, samples, equipment, test conditions, test procedures, test data processing and test reports for gray cast iron materials and vermicular graphite cast iron materials whose designations are RuT400 ~ RuT500. This Standard applies to the penetration strength test of gray cast iron materials and vermicular graphite cast iron materials whose designations are RuT400 ~ RuT500. Other brittle materials can be carried out by reference to this Standard.

2 Normative references

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

GB/T 8170, Rules of rounding off for numerical values & expression and judgment of limiting values

GB/T 16825.1, Verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Verification and calibration of the force-measuring system

3 Principle

5.1.1 The penetration strength test can use a universal testing machine + penetration strength test device, or a special penetration strength testing machine.

5.1.2 The accuracy of the testing machine shall be level 1 or better; it shall be tested in accordance with GB/T 16825.1.

5.1.3 The hardness of the upper and lower pressing plates of the universal testing machine shall not be less than 55 HRC.

5.2 Penetration strength test device

5.2.1 The material of the wedge shall be tool steel; the hardness range shall be (62 ± 2) HRC.

5.2.2 The wedge angle shall be (90 ± 0.5) °; the fillet radius of the wedge blade shall be

0.15 mm ~

0.2 mm; the length of the wedge blade shall be greater than 40 mm. The parallelism of the upper and lower wedge blades in the horizontal and vertical directions shall not be less than 1/0.002 5.

5.2.3 There shall be a sample positioning device.

6 Test conditions 6.1 General requirements

The test bench shall be clean; the sample shall be firmly placed on the test bench to ensure that the sample does not move during the test. During the entire test period, the testing machine shall not be subjected to shocks and vibrations that affect the test results.

6.2 Test temperature The test is generally carried out in the room temperature range of 10 °C ~ 35 °C. Other specific test temperatures shall be negotiated by the buyer and the supplier.

6.3 Test rate Control the test rate within the range of 2 N/(mm 2·s) ~ 10 N/(mm 2·s).