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CCS H26

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 10121-2008

Steel products-Method for magnetic particle inspection of tower sample

钢材塔形发纹磁粉检验方法

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Foreword

This standard replaces GB/T 10121-1988 "steel tower hairline magnetic particle inspection method." This standard 10121-1988 major changes compared to GB/T as follows:

--- Fluorescent magnetic particle weighing from "can be weighed separately" with no less than "4g";

--- Delete Terms equipment and instruments;

--- White light illumination by the 2000lx to 1000lx;

--- Black light intensity from not less than 800μW/cm 2 to not less than 1000μW/cm 2;

--- "The magnetic field strength must be controlled within a reasonable tolerance range, usually ± 25%" to "current intensity control in ± 10%";

--- Increase "equivalent diameter D = circumference/pi";

--- Increase Normative Appendix "A type of artificial standard specimen testing methods." The Standard Appendix A and Appendix B are normative appendix. The standard proposed by China Iron and Steel Association. This standard is under the jurisdiction of the National Steel Standardization Technical Committee. This standard is mainly drafted by: Dongbei Special Steel Group Co., Ltd., Maanshan Iron & Steel Company Limited. The main drafters of this standard. Dong Zehua, Kang Ge, Li Hongming, Liu Xueying, Vincent Chan, Hou Jiang. This standard was first released in 1988. Magnetic steel tower hairline test method

1 Scope

GB/T 10121-2008 is the Chinese national standard on steel products-method for magnetic particle inspection of tower sample, 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 77.040.20, CCS H26. 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.

The standard provides a summary of the magnetic particle inspection method of measuring performance test equipment, magnetic materials, and the sensitivity of the test system, specimen Preparation, testing conditions and procedures, type of magnetizing current, magnetic field strength, the test results of evaluation and acceptance, inspection personnel, labor standard test block, people Workers standard test pieces and the like. This standard applies to testing of ferromagnetic steel pyramid surface or near-surface hairline and other defects.

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 12604.5 Terminology for nondestructive testing - Magnetic particle testing

GB/T 15822.2 destructive testing - Magnetic particle testing - Part 2. Detection media (GB/T 15822.2-2005, ISO 9934-2. 2002, IDT)

JB/T 8290 magnetic particle inspection machine JISG0565 ferromagnetic magnetic particle inspection method and magnetic display classes (Methodformagneticparticletestingof ferromagneticmaterialsandclassificationofmagneticparticleindication)

3 Terms and Definitions

Terms and definitions GB/T 12604.5 established apply to this standard. Principle

4 Magnetic particle inspection method is based on ferromagnetic materials due to changes in continuity, such as the presence of defects such as hairline, the magnetic field lines can be distorted this original Management. If such defects located on the surface or near the surface of the sample is magnetized, the magnetic field lines in the surface distortion, this state is referred to as "leakage terminology Flux. "When there is leakage flux, spreading the powder will be adsorbed at the hairline, and to ensure that under appropriate lighting conditions, or by the naked eye Aid of not more than 10 times the magnifying glass to gather this kind of hairline.

5 Summary of test method

5.1 Inspection Steps Test specimens shall be magnetized sample magnetization should be imposed powder GB/T 15822.2 standard requirements for any powder should gather into Line detailed observation.

5.2 magnetization

5.2.1 The specimen shall be direct electrical tower magnetized. Due to the presence of defects in the object is magnetized, it will cut off the normal path of the magnetic field lines A leakage flux.

5.2.2 Since the hairline distributed along the axial direction of the steel, so the samples to the steel tower circumferentially magnetized, the induced magnetic field lines perpendicular to the hairline Straight direction, magnetic particle inspection.

5.2.3 field should have sufficient strength to be able to display those hairline rejected, but not too strong, as well as causing excessive aggregation of magnetic local production