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NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 5126-2013

Replacing GB/T 5126-2001

Eddy current inspection method for cold drawn thin wall tubes of aluminum and aluminum alloy

铝及铝合金冷拉薄壁管材涡流探伤方法

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 5126-2001 "aluminum and aluminum alloy cold-drawn thin-walled pipe eddy current testing method." this standard compared with GB/T 5126-2001, the main differences are as follows.

--- In the original standard, based on the increase in the detection size;

--- Comparative sample tube to the requirements of the supplementary provisions;

--- Of artificial defect size acceptance criteria have been revised;

--- Evaluation of the test results have been revised;

--- Detection procedures supplementary provisions;

--- This standard increases the acceptance level;

--- This term refers to the standard GB/T 12604 "Terminology for nondestructive testing eddy current testing." the standard reference method using redrafted ASTME215-2011 "calibration method of seamless aluminum alloy pipe electromagnetic inspection equipment" Program System, and the degree of consistency equivalent non ASTME215-2011.

This standard by the national non-ferrous metals Standardization Technical Committee (SAC/TC243) centralized.

This standard is mainly drafted by. Northeast Light Alloy Co., Ltd., Suzhou Chun-NDT Equipment Co., Ltd., Beijing Nonferrous Metal Research Institute, Southwest Aluminum (Group) Co., Ltd., China Aluminum Industry Branch of Northwest Aluminum, high-tech light wire Zhejiang East Co., Ltd., State Nonferrous Metals Industry Nondestructive Testing

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Center, Guangzhou Nonferrous Metal Research Institute, Shandong Yankuang Light Alloy Co., Ltd.

1 Scope

This standard specifies the aluminum and aluminum alloy cold-drawn thin-walled tubes encircling eddy current testing methods outlined and testing personnel, the environment, equipment and materials and Contents of sample preparation, detection requirements and test records, test reports.

This standard applies to an outer diameter of 6mm ~ 40mm, wall thickness of 0.5mm ~ 1.8mm high pressure air duct, common duct and general Aluminum and aluminum alloy seamless tube testing purposes.

2 Normative reference standard

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 9445 NDT personnel qualification and certification GB/T 12604.6 Terminology for nondestructive testing Eddy current testing

3 Terms

Terms and definitions GB/T 12604.6 defined apply to this document.

4 Summary of Method

When the subject through the concentric pipe through an alternating current probe (detection coil) when the subject is generated pipe surface and near surface induced eddy currents, and Eddy current induced magnetic field generated by such factors as the subject pipe geometry, conductivity, permeability, stress, metallurgical and mechanical defects and other changes Change. Signal is transmitted to the probe will change detector, the detector signal change through amplification, processing, extracting the desired conversions to the defect signal to the timing display, vector display form on the display. The comparative sample tube defect signal and the reflected artificial defects Signals are compared to assess the quality of the subject tubing.

5 Inspectors

5.1

in Eddy Current Testing personnel should meet the GB/T 9445 requirements.

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5.2

Eddy Current Testing personnel only engage corresponding technical work with their technical level qualifications.

6 Detects the environment

6.1

detected near the site should not affect the normal work equipment magnetic, vibration, corrosive atmosphere, and other confounding factors.

6.2

Detection venue temperature and relative humidity should be controlled within the allowable range of equipment.

6.3

detection sites should be clean, ventilated workspace without affecting the correct operation of the eddy current testing personnel, test results assessed as principle.

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