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**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 585-2013

Replacing YS/T 585-2006

**Method of ultrasonic inspection for copper and copper alloys
plates**

铜及铜合金板材超声波探伤方法

(English Translation)

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Foreword

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

Instead of the standard YS/T 585-2006 "copper and copper alloy sheet ultrasonic flaw detection method." This standard YS/T 585-2006 phase Than the main changes are as follows.

--- Expanded the scope of testing for copper and copper alloy sheet, the original standard "plate thickness 6mm ~ 70mm" expand "in thickness A copper plate 6mm ~ 150mm thickness 6mm ~ 200mm and the copper alloy sheet. "

--- Added "single defect, continuous defects, defect density and the bottom wave caused by a defect reduction amount" and other terms and definitions.

--- Increasing the frequency range of the ultrasonic flaw detection, the original standard "1.25MHz ~ 5.0MHz" to "0.5MHz ~ 5.0MHz ".

--- Delete "double crystal straight probes of performance requirements," a.

--- The double crystal straight probes recessed flat on the test block to test block with a flat bottom hole.

--- Double crystal straight probes and single crystal straight probe detection sensitivity was modified, the original standard $\Phi 4\text{mm}$ flat-bottomed hole equivalent change as $\Phi 2\text{mm}$ flat bottom hole equivalent.

--- Defect classification and grading have been modified to meet the different requirements of users.

--- The original standard was appropriate individual provisions supplement and perfect.

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

1 Scope

This standard specifies the testing method using the A-type ultrasonic pulse echo contact method manual testing of copper and copper alloy sheet. content include Principles, general requirements, testing equipment, testing methods, and to determine the classification of defects, inspection reports.

This standard applies to a thickness of 6mm ~ 150mm thickness of copper and copper alloy sheet ultrasonic 6mm ~ 200mm of flaw detection.

2 Normative references

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 JB/T 10061 A-mode pulse reflection type ultrasonic flaw detector General technical requirements JB/T 10062 ultrasonic flaw detection probe performance test method

3 Terms and Definitions

The following terms and definitions apply to this document.

Single defect singleflaw Determination by 6dB method indicating length of defects, when the probe is moving away from the center of the probe is less than the diameter of the wafer, called single defect.

Consecutive defect continuousflaws Determination indicating length of defects by 6dB method, when the probe is moving away from the center of the probe is greater than the diameter of the wafer can detect defects, or phase O defect spacing is less than the diameter of the wafer probe called continuous defects.

Intensive defect aclusterofflaws in the screen simultaneously scan line equivalent of five or more defects reflected signals within the range of 50mm sound path; or on 50mm x 50mm detecting surface found to have five or more defects reflected signal in the same depth range. Reflection amplitude greater than Reflection amplitude $\Phi 2\text{mm}$ flat-bottomed hole equivalents.

Bottom wave caused by a defect reduction amount lossofbackreflectioncausedbyflaws BG/BF in the region near the defect free of defects in good condition at the end of the first wave amplitude (BG) and the first end of wave amplitude defect region (BF) of the ratio. Decibels (dB).

4 Principle of the method

A pulse reflection type ultrasonic flaw detector generates a high-frequency electrical pulses through the probe (wafer) to convert the incoming acoustic and elastic media (work)