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

GB/T 40734-2021

**Non-destructive testing of welds - Phased array ultrasonic
testing(PAUT) - Acceptance levels**

焊缝无损检测 相控阵超声检测 验收等级

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

The translation method used in this document is equivalent to ISO 19285:2017 "Acceptance Level of Phased Array Ultrasonic Testing for Weld Nondestructive Testing".

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 11345-2013 Ultrasonic testing technology, testing level and assessment for non-destructive testing of welds (ISO 17640:2010, MOD);

---GB/T 12604.1-2005 Non-destructive testing term Ultrasonic testing (ISO 5577:2000, IDT);

---GB/T 19418-2003 steel arc welding joint defect quality classification guide (ISO 5817:1992, IDT);

---GB/T 29712-2013 Acceptance level of ultrasonic testing for non-destructive testing of welds (ISO 11666:2010, MOD);

---GB/T 40733-2021 The application of automatic phased array ultrasonic technology for

non-destructive testing of welds (ISO 13588.

2019, MOD).

This document was proposed by China Machinery Industry Federation.

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1 Scope

This document specifies the weld quality level established based on ISO 5817, for full penetration welding of ferritic steel with a base metal thickness of not less than 6mm the acceptance level of phased array ultrasonic testing (PAUT) for the joints.

The acceptance level specified in this document is applicable to classification according to the instructions specified in ISO 13588.

2 Normative references

The content of the following documents constitutes an indispensable clause of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

ISO 5577 Non-destructive testing Ultrasonic testing terms (Non-destructive testing-Ultrasonic testing- Vocabulary) ISO 5817 Welded joints of fusion welded steel nickel-titanium and its alloys (excluding high-energy beam welding) Lack of quality level [Welding- Fusion-Weldedjointsinsteel,nickel,titaniumandtheiralloys(beam weldingexclu-ded)-Qualitylevelsforimperfections] ISO 11666 Non-destructive testing of welds ultrasonic testing acceptance level (Non-destructive testing of welds-Ultrasonic testing-Acceptancelevels) ISO 13588 Non-destructive testing of welds. Ultrasonic testing. Application of automatic phased array ultrasonic technology (Non-destructive testing of welds-Ultrasonic testing-Useofautomatedphasedarraytechnology) ISO 15626 Time-of-Flight Diffraction Technology (TOFD) Acceptance Level for Non-destructive Testing of Welds [Non-destructivetestingofwelds-Time-of-flightdiffractiontechnique(TOFD)-Acceptancelevels]

ISO 17640 Non-destructive testing of welds, ultrasonic testing technology, testing level and evaluation (Non-destructive testing of welds-Ultrasonic testing-Techniques, testing levels, and assessment)

3 Terms and definitions

The terms and definitions defined by ISO 5577 and ISO 13588 apply to this document.

The website of the ISO and IEC standardized terminology database is as follows.

4 Symbols

The following symbols apply to this document.

h --- height.

hg---the sum of the height of a single indicator and the distance between its adjacent indicator heights.