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

GB/T 41114-2021

**Non-destructive testing - Ultrasonic testing - Specification for a
calibration block for phased array testing(PAUT)**

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Standardization Administration**

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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"

drafted:

This document is equivalent to ISO 19675:2017 "Non-Destructive Testing Ultrasonic Testing Phased Array Ultrasonic Testing Standard Test Block Specifications":

The following minimal editorial changes have been made to this document:

--- The technical content of EN16018 and ISO 23243 is consistent: In order to be consistent with the existing technical documents, EN16018 is changed to

ISO 23243 (chapter 2);

---In order to adapt to domestic technology application, add the note of 5:1;

--- In order to adapt to domestic technical applications, increase the national standard mark [see 6a)];

--- In order to adapt to domestic technical applications, the dimension marking form and view direction of Figure 2b) and Figure 2c) have been adjusted;

--- Add a reference to Appendix B (Chapter 8);

--- Add the description of formula (A:1) symbols;

--- Added reference GB/T 1591-2018 for ease of use:

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the dimensions, materials and fabrication requirements for steel test blocks used to test the performance of phased array ultrasonic testing equipment:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

ISO 5577 Non-destructive testing ultrasonic testing terminology (Non-destructive testing-Ultrasonic testing-Vocabulary)

Note: GB/T 12604.1-2020 Nondestructive testing term ultrasonic testing (ISO 5577:2017, MOD)

ISO 23243 Non-destructive testing terminology for phased array ultrasonic testing (Non-destructive testing-Ultrasonic testing with arrays-Vocabulary)

EN 10025-2 Structural steel hot-rolled products - Part 2: Technical delivery conditions for non-alloy structural steel (Hotrolled products of structuralsteels-Part 2:Technicaldeliveryconditionsfornon-alloystructuralsteels)

3 Terms and Definitions

Terms and definitions defined in ISO 5577 and ISO 23243 apply to this document:

The web addresses of terminology databases used in standardization work maintained by ISO and IEC are as follows:

---IEC Electrotechnical Encyclopedia: <http://www.electropedia.org/>;

---ISO online browsing platform: <https://www.iso.org/obp>:

4 Abbreviations

The following abbreviations apply to this document:

ACG: Angle Gain Correction

FSH: full screen height

RF: radio frequency

SDH: horizontal hole

SNR: Signal to Noise Ratio

TCG: Time Gain Correction

5 Make

5:1 Steel

The test block shall be made of steel with a steel grade of S355J0 in accordance with EN10025-2 or a steel equivalent to this grade: