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Ultrasonic cloud testing for steel products

钢产品超声云检测

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting is scheduled.

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1 Scope

GB/T 46440-2025 is the Chinese national standard covering ultrasonic inspection with the data and the evaluation moved off the instrument - the acquisition at the mill, the

transmission and storage, the remote analysis and the audit trail that has to survive, so that a result can be reviewed long after the operator has gone. First edition, under the China Iron and Steel Association. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document specifies the general requirements, testing system, testing equipment, testing procedures, communication network, cloud platform, and data for ultrasonic cloud testing of steel products. According to the processing, evaluation and reporting. This document applies to automated ultrasonic cloud testing of steel products such as steel pipes, steel bars, and steel plates (strips). Manual ultrasonic cloud testing should be performed in the same manner.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 9445 Qualification and Certification of Nondestructive Testing Personnel

GB/T 12604.1 Nondestructive Testing Terminology - Ultrasonic Testing

GB/T 20737 General Terms and Definitions for Nondestructive Testing

GB/T 38881 General Rules for Nondestructive Testing and Cloud Testing

3 Terms and Definitions

The terms and definitions defined in GB/T 9445, GB/T 12604.1, GB/T 20737 and GB/T 38881, as well as the following terms and definitions, apply to this standard. document.

3.1 Ultrasonic cloud testing A networked detection method that combines ultrasonic testing with cloud computing.

4 General Requirements

4.1 When conducting ultrasonic cloud testing, both the supplier and the buyer shall specify the relevant ultrasonic testing evaluation criteria and testing environment in the contract or related documents. and testing processes, etc.

4.2 Personnel performing the testing required by this document shall be trained and obtain qualification certificates in accordance with GB/T 9445 or equivalent standards, and the testing shall be conducted by the employer or their representative. The relevant authorities should provide job training and operational authorization to testing personnel. Testing

personnel should understand the relevant knowledge of cloud-based testing.

4.3 Data acquisition methods can be divided into manual acquisition and automatic acquisition.

4.4 The basic structure of ultrasound cloud testing should consist of cloud platform, communication network and ultrasound testing terminal, as shown in Figure 1.

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