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

GB/T 19799.2-2024

Replacing GB/T 19799.2-2012

**Non-destructive testing - Ultrasonic testing block - Part 2:
Calibration block No.2
(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 for standardization documents" Drafting is required.

This document is part 2 of GB/T 19799 "Non-destructive testing - ultrasonic test blocks". GB/T 19799 has published the following part.

--GB/T 19799.1 Non-destructive testing - Ultrasonic testing - Calibration test block No. 1.

--GB/T 19799.2 Non-destructive testing - Ultrasonic testing test blocks - Part 2: Standard test blocks No. 2.

This document replaces GB/T 19799.2-2012 "Non-destructive testing ultrasonic testing No. 2 calibration test block" and is consistent with GB/T 19799.2-Compared with 2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The definition of average surface roughness Ra is deleted (see Chapter 4 of the 2012 edition);
- b) The length of the scale groove of the No. 2 standard test block has been changed, and the provisions for the test block angle identification have been added (see 4.2, Chapter 4 of the 2012 edition);
- c) Added requirements for the preparation of semi-finished test blocks, as well as the requirements for ultrasonic testing and sound velocity measurement of test blocks before final machining (see 4.3);

- d) The requirements for specimen machining, heat treatment and surface treatment have been modified (see 4.3, Chapter 6 of the 2012 edition);
- e) Added the technical requirements for Figures 2, 3, 4, 5 and 6, and the graduation values of the scales in Figures 3 and 6 (see Chapter 5);
- f) The adjustment requirements for time base setting have been changed (see 5.1, 8.1 of the 2012 edition);
- g) The provisions on the characteristics and uses of standard test blocks have been deleted (see Appendix A of the 2012 edition).

This document is equivalent to ISO 7963:2022 "Standard test block No. 2 for non-destructive testing - ultrasonic testing".

The following minimal editorial changes were made to this document.

--To coordinate with the existing standards, the name of the standard is changed to "Non-destructive Testing Ultrasonic Test Blocks Part 2: Standard Test Block No. 2".

Introduction

Ultrasonic test blocks are divided into standard test blocks, comparison test blocks and test test blocks.

GB/T 19799 "Ultrasonic Test Blocks for Nondestructive Testing" is intended to standardize ultrasonic test blocks. GB/T 19799 is intended to consist of three parts.

constitute.

--Part 1: Standard test block No. 1. The purpose is to specify the size, material and manufacturing requirements of standard test block No. 1.

--Part 2: Standard test block No. 2. The purpose is to specify the dimensions, materials, manufacturing requirements, and use of standard test blocks No. 2.

Methods for setting up and verifying ultrasonic testing equipment.

-- Part 3: Standard test blocks for curved surface inspection. The purpose is to specify the size, material, and manufacturing requirements of standard test blocks for curved surface inspection.

And the method of using test blocks to verify the performance of curved surface probes and material sound velocity.

Standard test block No. 2 is different from standard test block No. 1 in size and shape, but both are made of the same material, steel, and are used for all ultrasonic testing.

Compared with the No. 1 standard test block, the No. 2 standard test block is smaller in size, lighter in weight, and has a simpler geometry.

The scope of application is not as comprehensive as that of the No. 1 standard test block, especially it cannot be used to fully verify the performance of ultrasonic instruments.

The test block can be used to easily and conveniently check the time baseline and sensitivity settings of ultrasonic instruments at any time. It is also suitable for checking the beam angle and Point of incidence.

This document is Part 2 of GB/T 19799. This revision of GB/T 19799.2-2012 clarifies and refines the test blocks.

drawings, semi-finished test block preparation, and ultrasonic testing requirements before test block machining, promote the standardization of ultrasonic testing blocks, and ensure product quality and Service safety is of great significance.

Non-destructive testing ultrasonic test blocks Part 2: Standard test block No. 2

1 Scope

This document specifies the size, material, manufacturing requirements of No. 2 standard test block (hereinafter referred to as the test block), and the use of the test block for ultrasonic testing equipment.

Methods for setting up and verifying equipment.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO 2400 Non-destructive testing-Ultrasonic testing-No. 1 standard test block Note. GB/T 19799.1-2015 Non-destructive testing - Ultrasonic testing - Calibration test block No. 1 (ISO 2400:2012, IDT) ISO 5577 Non-destructive testing-Ultrasonic testing-Vocabulary Note. GB/T 12604.1-2020 Non-destructive testing terminology Ultrasonic testing (ISO 5577:2017, MOD) EN 10025-2 Hot rolled products of structural steels Part 2: Technical delivery conditions for non-alloy structural steels structural steels-Part 2: Technical delivery conditions for non-alloy structural steels)

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 5577 apply.

4.1 Steel

The test blocks shall be made of steel grade S355J0 as specified in EN 10025-2 or equivalent.

4.2 Dimensions

The dimensions of standard test block No. 2 shall be consistent with Figure 1.

When using a non-compact probe, the thickness of the test block may be greater than 12.5 mm, such as 20 mm or 25 mm.