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

GB/T 20490-2023

Replacing GB/T 20490-2006

**Non-destructive testing(NDT) methods of steel tubes -
Automated ultrasonic testing of seamless and welded steel
tubes for the detection of laminar imperfections**

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Foreword

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

Drafting.

This document replaces GB/T 20490-2006 "Ultrasonic detection of delamination defects in pressure-bearing seamless and welded (except submerged arc welding) steel pipes" and is consistent with

Compared with GB/T 20490-2006, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

---The scope of application of the standard has been changed, and the detection of adjacent areas of welded steel pipe welds and the full circle of seamless and welded steel pipe ends have been added

Weekly testing (see Chapter 1, Chapter 1 of the.2006 edition);

---Added terms and definitions (see Chapter 3);

---Changed the requirements for full-circle inspection of seamless and welded steel pipes (except submerged arc welded steel pipes) (see 5.2, 4.2 of the.2006 edition);

--- Added requirements for inspection of adjacent areas of welded steel pipe welds (see 5.3);

--- Added requirements for full-circle detection of seamless and welded steel pipe ends (see 5.4);

---Changed the acceptance level (see Table 1, Table 2, Table 1 of the.2006 version);

---Changed the requirements for comparing standard defect sizes (see 6.2, Chapter 6 of the.2006 edition);

---Changed the requirements for disposal of suspicious pipes (see 8.2, 8.4 of the.2006 edition).

This document is equivalent to ISO 10893-8.2011 "Nondestructive testing of steel pipes - Part 8. Automatic detection of delamination defects in seamless and welded steel pipes" Acoustic Detection".

This document has made the following minimal editorial changes.

---In order to coordinate with the existing standards, the name of the standard is changed to "Automated Ultrasonic Inspection of Seamless and Welded Steel Pipes for Delamination Defects in Non-destructive Testing of Steel Pipes"

Measurement";

---Incorporated the amendments to ISO 10893-8.2011/Amd.1.2020, the outer margins of the clauses involved are marked with vertical

Straight double lines (||) are marked.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the requirements for automatic ultrasonic detection of delamination defects, including.

- a) Full circumferential inspection of seamless and welded steel pipe bodies (except submerged arc welded steel pipes);
- b) Detection of adjacent areas of welded steel pipe welds;
- c) Full circumference inspection of seamless and welded steel pipe ends.

This document also applies to the inspection of circular hollow profiles.

Note. For welded steel pipes, see ISO 10893-9 for the method of detecting delamination defects in steel strips/plates before steel pipe forming.

2 Normative reference documents

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

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

this document.

ulary)

Note. GB/T 12604.1-2020 Non-destructive testing terminology Ultrasonic testing (ISO 5577.2017, MOD)

tion of NDT personnel)

of imperfections)

Note. GB/T 40791-2021 Non-destructive testing of steel pipes - Radiographic detection of weld defects in welded steel pipes (ISO 10893-6.2019, IDT)

ISO 10893-7 Non-destructive testing of steel pipes Part 7. Digital radiographic detection of weld defects in welded steel pipes (Non-destructive tes-

Note. GB/T 40385-2021 Non-destructive testing of steel pipes - Digital radiographic detection of weld defects in welded steel pipes (ISO 10893-7.2019, IDT)

ISO 11484 Qualification system for non-destructive testing personnel of steel products employers [Steel products-Employer's qualifi-

3 Terms and definitions

The terms and definitions defined in ISO 5577 and ISO 11484 and the following apply to this document.

3.1

comparison standard defect reference standard

Used to verify artificial defects (such as holes, grooves and grooves) in non-destructive testing equipment.