NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 232-2024

Metallic materials - Bend testing method

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Table of Contents

Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents.

This document replaces GB/T 232-2010 Metallic materials - Bend test. Compared with GB/T 232-2010, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

-- Figure 3 is changed (see Figure 3; see Figure 3 of the 2010 edition);

-- Requirements for test piece plane strain conditions are added (see 7.3);

-- Requirements for test pieces of forged materials, cast materials and semi-finished products are changed (see 7.5; see 6.5 of the 2010 edition);

-- Some symbols and descriptions are changed; and the Lode angle parameter , stress triaxiality eta and radius of supports R are added (see Table 1; see Table 1 of the 2010 edition);

-- A description of the bending test under plane strain conditions is added (see Appendix A).

This document was modified in relation to ISO 7438.2020 Metallic materials - Bend test.

Compared with ISO 7438.2020, the following structural adjustments are made in this document.

-- 8.3 of ISO 7438.2020 is divided into 8.3 and 8.4, and 8.4 of ISO 7438.2020 is postponed to 8.5;

-- The order of Appendix A and Appendix B is exchanged.

The technical differences between this document and ISO 7438.2020 and their reasons are as follows.

-- The content "other bending devices that comply with the bending test principle can be used" is added (see 6.5), and the turning-plate bending device is retained, to meet Chinese national conditions;

-- The normative reference document GB/T 2975 is added (see 7.1) to ensure the

operability of the standard;

-- The "inner radius" is changed to "diameter of the former" (see 9.2) for better operability;

-- The "square root of eta" is changed to "eta value" (see A.2) to keep it consistent with the previous sentence.

The following editorial changes are made to this document.

-- The name of the standard is changed to "Metallic materials - Bend testing method";

-- The reference to Figure 5 is added [see 8.2 a)].

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

This document was proposed by the China Iron and Steel Association.

This document is under the jurisdiction of the National Technical Committee on Steel of Standardization Administration of China (SAC/TC183).

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This document was first published in 1963, revised for the first time in 1982, for the second time in 1988, for the third time in 1999, and for the fourth time in 2010.This is the fifth revision.

Metallic materials - Bend testing method

1 Scope

This document describes a test method for determining the ability of metallic materials to withstand plastic deformation in bending.

This document is applicable to the bending test of test pieces specified in product standards related to metal materials.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, for referenced documents with a date, only the version corresponding to the date is applicable to this document. For undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 2975 Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (GB/T 2975-2018, ISO 377.2017, MOD)

3 Terms and definitions

There are no terms or definitions that need to be defined in this document.

4 Symbols and descriptions

The symbols and descriptions used in this document are shown in Table 1.

5 Principles