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

GB/T 2653-2026

Replacing GB/T 2653-2008

Destructive tests on welds in metallic materials - Bend tests

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(English Translation)

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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 2653-2008 "Test Method for Bending of Welded Joints". Compared with GB/T 2653-2008, the only changes are structural adjustments.

a) The scope has been changed (see Chapter 1, Chapter 1 of the 2008 edition);

b) The term "positive bend" was changed to "face bend," and "LFBB butt weld longitudinal face bend specimen" and "LRBB butt weld longitudinal back bend" were added.

The term "sample" has been revised, and the corresponding definition has been modified (see Chapter 3, Chapter 2 of the 2008 edition).

c) The symbols A, Lb, rP, rD, and tb were added (see Chapter 4);

d) The requirement regarding the test environment temperature has been removed, and requirements regarding the test speed have been added (see Chapter 5, 2008 edition).

Chapter 3);

e) Changed "butt joint" to "butt weld", "with weld overlay" to "cladding", changed the sample size requirements, and deleted Table 2.

"Width of longitudinal bending specimen" (see Chapter 6, Chapter 5 of the 2008 edition);

f) Added general principles for "Test Conditions" and "Bending Test with Liner" (see Chapter 7);

g) The requirement for judging defects shorter than 3 mm has been removed from the test results (see Chapter 7 of the 2008 edition);

h) The "Test Report" has been amended (see Chapter 9, Chapter 8 of the 2008 edition).

This document adopts ISO 5173:2023 "Destructive testing of welds in metallic materials - Bending test".

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

---The footnotes in Table 1 have been removed. Both "pipe" and "tube" are "" in Chinese, so there will be no ambiguity.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Welding and Related Processes (SAC/TC55).

1 Scope

This document specifies the procedures for taking samples from butt welds, butt welds with cladding (divided into composite plate welds and cladding welds), and non-butt welds.

Test methods for coated specimens involving transverse back bending, face bending, and side bending are used to reveal defects on or near the tensile surface of the bending specimen and/or to assess its...

Ductility. The dimensions of the sample are also given.

Furthermore, this document specifies that when there are significant differences in the physical and mechanical properties of the substrate, heat-affected zone, and/or weld metal during bending, the following should be used.

This method is used to replace the bending test of the pressure head of the welded joint.

This document applies to metallic materials with all types of welded joints made by any welding process.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

Note: See Figure 1.

The unit is millimeters.

Indexing symbol explanation.

b --- Sample width;

Lt---Total length of the specimen;

r --- Radius of the sample corner;

t --- specimen thickness;

ts --- Sample thickness.

Figure 1. Transverse face bend specimen (TFBB) of butt weld.