

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

**स्टील में फ्यूजन वेल्डेड जोड़ और वेल्ड धातु — परीक्षण पद्धति
भाग 5 धात्विक सामग्रियों में वेल्ड पर विनाशी परीक्षण — बेंड टेस्ट**

[आई एस 3600 (भाग 5) का चौथा पुनरीक्षण]

Draft Indian Standard

FUSION WELDED JOINTS AND WELD METAL IN STEEL — METHOD OF TEST

PART 5 DESTRUCTIVE TESTS ON WELDS IN METALLIC MATERIALS — BEND TESTS

[Fourth Revision of IS 3600 (Part 5)]

ICS 25.160.40

Welding General and its Applications
Sectional Committee, MTD 11

Last date of comments
08 December 2024

NATIONAL FOREWORD

This draft standard is identical to ISO 5173 : 2023 'Destructive tests on welds in metallic materials — Bend tests' issued by the International Organization for Standardization (ISO), and subject to its finalization, is to be adopted by the Bureau of Indian Standards on the recommendation of the Welding General and its Applications Sectional Committee and approval of the Metallurgical Engineering Division Council.

This standard was originally published in 1966 and subsequently revised in 1973, 1983 and 2018. First revision of this standard was undertaken in 1973 to cover various tests on fusion welded joints and weld metals in steel. Second revision of this standard was undertaken in 1983 to bring the test and test requirements in line with the other international standards published so far by revising the standard in 9 Parts. The third revision of this standard was undertaken in 2018 to align it with ISO 5173 : 2009. This revision has been undertaken to align it with the latest version of ISO 5173 : 2023 under dual numbering system to harmonize it with the latest developments that have taken place at international level.

The main changes as compared to the previous version are as follows:

- a) Scope has been updated to introduce guided transverse bend tests with a roller and longitudinal bend tests as alternative methods of testing for heterogeneous assemblies;
- b) In Clause 4, the testing temperature has been removed;
- c) Subclause 7.2.2 has been modified accordingly; and
- d) Figures have been corrected.

This Indian Standard is published in various parts. Other parts in this series are:

- Part 1 Destructive tests on welds in metallic materials — Tensile test on cruciform and lapped joints
- Part 2 Destructive tests on welds in metallic materials — Impact tests — Test specimen location, notch orientation and examination
- Part 3 Destructive tests on welds in metallic materials — Transverse tensile test
- Part 4 Destructive tests on welds in metallic materials — Longitudinal tensile test on weld metal in fusion welded joints
- Part 8 Destructive tests on welds in metallic materials — Fracture test
- Part 9 Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds

In reporting the result of a test or analysis made in accordance with this standard, is to be rounded off, it shall be done in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'.

The scope of the standard is as follows:

SCOPE

This document specifies a method for making transverse root, face and side bend tests on test specimens taken from butt welds, butt welds with cladding (subdivided into welds in clad plates and clad welds) and cladding without butt welds, in order to reveal imperfections on or near the surface of the test specimen which is under tension during bend testing and/or assess ductility. It also gives the dimensions of the test specimen.

In addition, this document specifies methods to be used instead of transverse bend tests with a former for welded joints when base materials, heat affected zones and/or weld metal have a significant difference in their physical and mechanical properties in relation to bending.

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

The complete document/text of ISO 5173 : 2023 'Destructive tests on welds in metallic materials — Bend tests' may be made available, on request to:

संजीव मैनी / **Sanjiv Maini**
वरिष्ठ निदेशक, वैज्ञानिक 'एफ' एवं प्रमुख / **Senior Director, Scientist 'F' & Head**
धातुकर्म अभियांत्रिकी विभाग / **Metallurgical Engg. Department**
भारतीय मानक ब्यूरो / **Bureau of Indian Standards,**
मानक भवन, नई दिल्ली / **Manak Bhavan, 9, B.S.Z. Marg,**
New Delhi-110002
E-mail: mtd@bis.gov.in, mtd11@bis.gov.in
Tel: + 91 11 23238403