

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

**स्टील में फ्यूजन वेल्डेड जोड़ और वेल्ड धातु — परीक्षण पद्धति
भाग 9 धात्विक सामग्रियों में वेल्ड पर विनाशी परीक्षण — वेल्ड की मैक्रोस्कोपिक और
माइक्रोस्कोपिक जाँच**

[आई एस 3600 (भाग 9) का चौथा पुनरीक्षण]

Draft Indian Standard

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

**PART 9 DESTRUCTIVE TESTS ON WELDS IN METALLIC MATERIALS —
MACROSCOPIC AND MICROSCOPIC EXAMINATION OF WELDS**

[*Fourth Revision of IS 3600 (Part 9)*]

ICS 25.160.40

Welding General and its Applications
Sectional Committee, MTD 11

Last date of comments
06 December 2024

NATIONAL FOREWORD

This draft standard is identical to ISO 17639 : 2022 'Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds' 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, 1985 and 2022. 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 1985 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 2022 to align it with the ISO 17639 : 2003. This revision has been undertaken to align it with latest version of ISO 17639 : 2022 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:

- Clause 2 has been updated; and
- The designations according to ISO/TR 15608 have been updated in Clause 10.

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 5	Destructive tests on welds in metallic materials — Bend tests
Part 8	Destructive tests on welds in metallic materials — Fracture test

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical with those used in Indian Standard. Attention is especially drawn to the following:

- Wherever the words 'International Standard' appear referring to this standard, it should be read as 'Indian Standard'; and
- Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are given below along with their degree of equivalence for the edition indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 6520-1 Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding	IS 10793 (Part 1) : 2018/ISO 6520-1 : 2007 Welding and allied processes — Classification of geometric imperfections in metallic materials Part 1 Fusion welding (<i>first revision</i>)	Identical

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 gives recommendations for specimen preparation, test procedures and their main objectives for macroscopic and microscopic examination.

The complete document/text of ISO 17639 : 2022 'Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds' may be made available, on request to:

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