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भारतीय मानक ब्यूरो

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भारतीय मानक मसौदा

धात्विक सामग्री - रॉकवेल कठोरता परीक्षण

भाग 2: परीक्षण मशीनों और इंडेंटर्स का सत्यापन एवं अंशशोधन

IS 1586 (Part 2) का छठा पुनरीक्षण

Draft Indian Standard

Metallic Materials — Rockwell Hardness Test

Part 2: Verification and Calibration of Testing Machines and Indenters

(*Sixth Revision of IS 1586 (Part 2)*)

ICS 77.040.10

Mechanical Testing of Metals Sectional Committee, MTD 03	Last date of comment: 10/07/2024

NATIONAL FOREWORD

This draft standard (Sixth Revision) is identical to ISO 6508-2 : 2023 'Metallic materials — Rockwell hardness test Part 2: Verification and calibration of testing machines and indenters' 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 Mechanical Testing of Metals Sectional Committee and approval of the Metallurgical Engineering Division Council.

This standard was originally published in 1960 and subsequently revised in 1968, 1988, 2000, 2012 and 2018. The sixth revision of this standard has been undertaken to align with the latest version ISO 6508-2 : 2023 to harmonize it with the latest developments that have taken place at international level.

This Indian Standards is published in three parts. Other parts in this series are:

Part 1: Test methods.

Part 3: Calibration of reference blocks.

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

1) removed all statements of requirements, permissions, and recommendations from the Scope of the document (Clause 1);
2) addition of Clause 3, Terms and definitions;
3) modification of the requirements for the calibration and verification of the force and depth measuring systems (Clause 4);
4) added a requirement for the hardness of the indenter ball holder (Clause 6);
5) changed the layout of Table 8 (Clause 6);
6) modified the requirements for direct and indirect calibration and verification (Clause 7);
7) modified the information related to the determination of uncertainty of measurement (Annex B).

The text of ISO standard has been approved as suitable for publication as in 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:

a) Wherever the words `International Standard' appear referring to this standard, it should be read as `Indian Standard'

b) 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 exists. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the edition indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 6508-1 : 2023 Metallic materials — Rockwell hardness test — Part 1 : Test method	IS 1586 (Part 1) : 2018 / ISO 6508-1 : 2015 Metallic materials - Rockwell hardness test Part 1 test method (*Fifth Revision*)	Identical
ISO 6508-3 : 2023 Metallic materials — Rockwell hardness test — Part 3 : Calibration of reference blocks	IS 1586 : 2018 / ISO 6508-3 : 2015 Metallic materials - Rockwell hardness test Part 3 Calibration of reference blocks (*Fifth Revision*)	Identical
ISO 6507-1 : 2023 Metallic materials — Vickers hardness test — Part 1 : Test method	IS 1501 (Part 1) : 2020 / ISO 6507-1 : 2018 Metallic Materials — Vickers Hardness Test Part 1 Test Method (Fifth Revision)	Identical
ISO 376 : 2011 Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines	IS 4169 : 2014 / ISO 376 : 2011 Metallic materials - Calibration of force proving instruments used for the verification of uniaxial testing machines (*Second Revision*)	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 specifies two separate methods of verification of testing machines (direct and indirect) for determining Rockwell hardness in accordance with ISO 6508-1, together with a method for verifying Rockwell hardness indenters.

The direct verification method is used to determine whether the main parameters associated with the machine function, such as applied force, depth measurement, and testing cycle timing, fall within specified tolerances. The indirect verification method uses a number of calibrated reference hardness blocks to determine how well the machine can measure a material of known hardness.

This document is applicable to stationary and portable hardness testing machines.

Attention is drawn to the fact that the use of tungsten carbide composite for ball indenters is considered to be the standard type of Rockwell indenter ball.

The complete document/text of ISO 6508-2 : 2023 'Metallic materials — Rockwell hardness test Part 2: Verification and calibration of testing machines and indenters' may be made available, on request to:

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