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भारतीय मानक ब्यूरो

DRAFT FOR WIDE CIRCULATION

भारतीय मानक मसौदा

माइक्रोबीम विश्लेषण - स्कैनिंग इलेक्ट्रॉन माइक्रोस्कोपी - छवि आवर्धन को कैलिब्रेट करने के लिए दिशानिर्देश

Draft Indian Standard

Microbeam analysis — Scanning electron microscopy — Guidelines for calibrating image magnification

ICS: 37.020

Nanotechnologies Sectional Committee, MTD 33

Last date of comments: 05/04/2024

NATIONAL FOREWORD

This draft standard which is identical ISO 16700 : 2016 'Microbeam analysis — Scanning electron microscopy — Guidelines for calibrating image magnification' 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 Nanotechnologies Sectional Committee and approval of the Metallurgical Engineering Division Council.

The committee decided to adopt ISO 16700 : 2016 standard under dual numbering system.

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/IEC 17025 : 2005 General requirements for the competence of testing and calibration laboratories	IS/ISO/IEC 17025 : 2017 / ISO/IEC 17025 : 2017 General requirements for the competence of testing and calibration laboratories (*Second Revision*)	Identical

ISO Guide 30 : 2015 Reference materials — Selected terms and definitions	IS/ISO GUIDE 30 : 2015 / ISO GUIDE 30 : 2015 Reference materials — Selected terms and definitions	Identical
ISO Guide 35 : 2017 Reference materials — General and statistical principles for certification	IS/ISO GUIDE 35 : 2017 / ISO GUIDE 35 : 2017 Reference materials — General and statistical principles for certification	Identical

The Technical Committee responsible for the preparation of this standard has reviewed the provisions of following International Standards referred in these adopted standards and decided their acceptability for use in conjunction with this standard.

International Standard	*Title*
ISO Guide 34 : 2009	General requirements for the competence of reference material producers

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

The Scope of the standard is as follows:

SCOPE

The scanning electron microscope is widely used to investigate the surface structure of a range of important materials such as semiconductors, metals, polymers, glass, food and biological materials, and this International Standard is relevant to the need for magnification calibration of the images. It describes the requirements for calibration of the image magnification in the scanning electron microscope using a reference material or a certified reference material.

The complete document/text of ISO 16700 : 2016 'Microbeam analysis — Scanning electron microscopy — Guidelines for calibrating image magnification' may be made available, on request to:

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