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Microscopes — Minimum requirements for binocular tubes

Microscopes — Exigences minimales pour tubes binoculaires

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Requirements **2**
Annex A (normative) **Test methods for binocular tubes** **4**

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Foreword

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The committee responsible for this document is ISO/TC 172, *Optics and photonics*, Subcommittee SC 5, *Microscopes and endoscopes.*

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Microscopes — Minimum requirements for binocular tubes

1 Scope

This International Standard specifies the minimum requirements regarding image quality and viewing ergonomics for binocular tubes for compound microscopes when used with eyepieces as specified by the manufacturer. This International Standard makes a distinction between binocular tubes with and without dioptre adjustment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15227:2000, *Optics and optical instruments — Microscopes — Testing of stereomicroscopes*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
interpupillary distance
IPD
distance between the exit pupils of the left and right optical system

3.2
optical axis
axis given by the central ray of the pencil exiting the eyepiece for an object point in the centre of the object plane

3.3
convergence
describes the situation when the optical axis for the left and right optical systems meet at a position further away from the eye than the eyepiece

Note 1 to entry: Binocular tubes for compound microscopes usually have parallel optical axes for the left and right optical systems.

3.4
imaging rotation
orientation of the image with respect to the optical axis as the axis of rotation

3.5
relative brightness
brightness of the darker of the two optical systems divided by the brightness of the lighter of the two optical systems

Note 1 to entry: The requirement in Table 3 shall be fulfilled for any state of polarization.

Note 2 to entry: It is expressed in percentage (%).

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