

JJF

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**Calibration Specification for Metallographic Microscope
(English Translation)**

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8 Recalibration interval(3)

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Introduction

JJF 1071-2010 "Rules for the Compilation of National Metrology Calibration Standards", JJF 1001-2011 "General Metrology Terms and Definition" and JJF 1059.1-2012 "Measurement Uncertainty Evaluation and Representation" together constitute support for the formulation of this specification the basic series of specifications.

In the formulation process of this specification, reference is made to GB/T 22059-2018 "Microscope Magnification Values, Tolerances and Symbols" no." and JB/T 10077-1999 "Metallographic Microscope".

This specification is published for the first time.

Calibration Specifications for Metallographic Microscopes

1 Scope

This specification applies to monocular, binocular observation type and metallographic microscopes with image sensor receiving type.

calibration.

2 Reference documents this specification references the following documents.

JJF 1071-2010 Rules for Compilation of National Metrology and Calibration Specifications
JB/T 10077-1999 Metallographic microscope for dated references, only the dated version applies to this specification; for undated references the latest version (including all amendments) applies to this specification.

3 Overview

A metallographic microscope is an optical instrument used to observe and measure the microstructure of metals. According to metallographic microscope the method of observing the image of the object can be divided into the eyepiece observation type and the image sensor receiving type metallographic microscope.

4 Metrology characteristics

4.1 Relative deviation of left and right field of view center of binocular microscope Up and down. not more than 0.2mm;

Left and right. the outer side is not more than 0.2mm; the inner side is not more than 0.4mm.

4.2 Objective lens magnification error the maximum allowable error of the magnification of the objective lens is generally not more than $\pm 5\%$.

4.3 Indication error Indication error generally does not exceed the provisions of Table 1.

Table 1 Indication error

Objective lens magnification $\Gamma \leq 10\times$ $10\times$ $50\times$ Indication error $\pm(0.01\text{mm } 5\times 10^{-2}L) \pm(0.003\text{mm } 5\times 10^{-2}L) \pm(0.002\text{mm } 5\times 10^{-2}L)$ Note. L---Measurement length.

Note: The calibration work does not judge whether it is qualified or not, and the above measurement characteristics requirements are for reference only.

5 Calibration Conditions

5.1 Environmental conditions

5.1.1 The indoor temperature for calibrating the metallographic microscope should be within the range of $(20 \pm 5)^{\circ}\text{C}$.

5.1.2 The calibration room should be free from dust, vibration and corrosive gases that may affect calibration.