AS 2101—1978

Australian Standard®

Internal micrometers (including stick micrometers) (metric series)

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CALLIPER, MICROMETER, INSIDE
(Extension Rod Type, Metric Series) ...NSC 5210]

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Confederation of Australian Industry
Department of Defence
Department of Productivity
Federal Chamber of Automotive Industries
Metal Trades Industry Association of Australia
National Measurement Laboratory
Institution of Engineers, Australia
Institution of Production Engineers
Society of Manufacturing Engineers
Railways of Australia Committee
Universities and Institutes of Technology

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PREFACE

This standard was prepared by the Association's Committee on Metrology, as part of a program to provide standards for a comprehensive range of measuring instruments, in the metric series. This standard supersedes AS B136—1955 which covered inch and metric micrometers and was an endorsement of BS 959:1950. BS 959 was imperial-unit based with corresponding metric units as supplementary information, and the need for an Australian standard for internal micrometers in the metric series arose firstly from the necessity to provide a standard with a metric base, and secondly to revise and update information given in AS B136 because much of the material was obsolescent. Inch series internal micrometers are covered in Supplement No 1 to this standard.*

In preparing this standard, the committee noted that there was no ISO standard, nor was there any work within ISO/TC3 on these measuring tools. The standard therefore has been based on current Australian practice and on relevant national standards of other countries.

This standard specifies requirements for internal micrometers and stick micrometers, reading to 0.01 mm, and covers design, materials and properties, and accuracy and performance requirements. Requirements for setting gauges for use with such measuring instruments are also included.

An appendix provides notes on the methods of test for the more important metrology features.

This standard may require reference to AS...., Glossary of Terms Used in Metrology.*

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* In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification

for

INTERNAL MICROMETERS (INCLUDING STICK MICROMETERS) (METRIC SERIES)

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard applies to internal micrometers, including stick micrometers, reading to 0.01 mm. It specifies materials and properties, design requirements and general dimensions, and also the setting gauges for stick micrometers, but it does not cover three-point contact bore micrometers used for other types of internal measurement.

Appendix A sets out recommended methods of test for the more important metrological features.

1.2 APPLICATION. The micrometers shall comply with the relevant requirements of this Section 1 and with the particular requirements of the following Sections, as appropriate:

Section 2 —Internal Micrometers (Other Than Stick Micrometers)

Section 3 —Stick Micrometers.

1.3 NOMENCLATURE. For the purpose of this standard the nomenclature given in Fig. 1 applies.

1.4 DEFINITIONS. For the purpose of this standard the definitions given in AS....* and the following definitions apply:

Internal micrometer —a measuring instrument comprising a measuring head and interchangeable rods with or without spacing collars. The rods are interchangeable within the measuring head by means other than a screw thread, such that not more than one rod is used in any build-up within the measuring range of the micrometer.

Stick micrometer —a measuring instrument comprising a micrometer unit and a series of extension rods. The extension rods are interchangeable and connect to the micrometer unit by means of a screw thread. Several rods may be used in one build-up.

1.5 MATERIALS AND PROPERTIES.

1.5.1 Internal Micrometers.

1.5.1.1 *Measuring head.* The body of the measuring head, its spindle, measuring face and abutment face shall be of a high quality tool steel. For the spindle and measuring

* AS...., Glossary of Terms Used in Metrology (in course of preparation).