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Australian Standard 1290—1980

GENERAL REQUIREMENTS FOR LINEAR MEASURING INSTRUMENTS USED IN CONSTRUCTION

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

THE FOLLOWING SCIENTIFIC, INDUSTRIAL, PROFESSIONAL AND GOVERNMENTAL organizations were officially represented on the committee entrusted with the preparation of this standard:

Association of Consulting Engineers, Australia

Australian Institute of Steel Construction

CSIRO National Measurement Laboratory

Department of Housing and Construction

Department of Lands, N.S.W.

Department of Public Works, N.S.W.

Master Builders Federation of Australia Incorporated

Manufacturers and importers

National Association of Australian State Road Authorities

Royal Australian Institute of Architects

The Institution of Surveyors, Australia

University of Sydney

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AUSTRALIAN STANDARD

GENERAL REQUIREMENTS FOR LINEAR MEASURING INSTRUMENTS USED IN CONSTRUCTION

AS 1290—1980

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PREFACE

This standard was prepared by the Association's Committee on Linear Measuring Instruments. It supersedes the first (1972) edition which was issued in one volume with other standards in the series under the designation AS 1290 to 1298, Linear Measuring Instruments for Use in Construction. Except for AS 1296 which is now withdrawn each of these standards is the subject of a new edition, issued separately.

The method of graduation is consistent with decisions on units, their multiples and submultiples made by the Metric Conversion Board and the Standards Association of Australia Metric Standards Advisory Committee.

In the preparation of this standard reference was made to a number of sources including—

BS 3693 Recommendations for the Design of Scales and Indexes
Part 1—Instruments of Bold Presentation and for Rapid Reading

BS 4484 Measuring Instruments for Constructional Works
Part 1—Metric Graduation and Figuring of Instruments for Linear Measurement

and acknowledgment is made of the assistance obtained therefrom.

In this edition, the following clauses and appendices of the 1972 edition have been amended:

2.2 Definitions for Measuring Instruments

5.4 Direction of Reading

Appendix B Adhesion Tests for Coated Ribbons with Painted or Printed Markings

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
GENERAL REQUIREMENTS FOR LINEAR MEASURING INSTRUMENTS USED IN CONSTRUCTION

1 SCOPE. This standard specifies the requirements for graduation, figuring and presentation of linear measuring instruments used in construction.

2 DEFINITIONS. For the purpose of this standard, the following definitions apply.

2.1 Definitions Relating to Graduation and Figuring.

(a) *Scale*—an array of marks, together with any associated figuring, in relation to which the dimension of the measured object is directly observed.

(b) *Graduation mark, or Scale mark*—one of the marks constituting a scale.

(c) *Scale division*—the part of the scale delimited by the centre lines of two adjacent graduation marks.

(d) *Graduation*—the manner in which the graduation marks are set out.

(e) *Figuring*—a series of marked numerals on an instrument for linear measurement, which give the distance of a particular graduation mark from the zero of the instrument.

(f) *Major graduation mark*—graduation mark denoting one of the primary divisions into which the instrument is graduated.

(g) *Minor graduation mark*—graduation mark denoting one of the smallest divisions into which the instrument is graduated.

(h) *Intermediate graduation marks*—graduation marks of an order which falls between the major graduation and the minor graduation of an instrument.

(j) *Fine graduation*—the smaller of two orders of scale division appearing on the same instrument.

(k) *Coarse graduation*—the larger of two orders of scale division appearing on the same instrument.

(l) *Quick-reading figure*—a repeating metre numeral, appearing in instruments over 1 m in length, at each 100-mm graduation mark, to enable the user to read instantaneously without needing to scan the instrument.

(m) *Standard temperature*—the temperature at which the instrument errors will be determined, i.e. 20° C.

(n) *Zero of instrument*—the point from which all graduation and figuring of the instrument is dimensioned.

2.2 Definitions for Measuring Instruments.

(a) *Folding rule*—a graduated and figured rule consisting of four equal lengths (or 'legs') of boxwood or suitable metallic or synthetic material, connected end-to-end by suitable joints.

(b) *Lath*—a graduated and figured rule consisting of a straight continuous strip of boxwood, flexible hardwood or suitable metallic or synthetic material.

(c) *Folding and sliding folding rod*—a graduated and figured rule consisting of two or more lengths of boxwood, flexible hardwood or suitable metallic or synthetic material, connected by positive folding joints.

(d) *Retractable steel pocket rule*—a steel blade with a coated or plated finish, or a stainless steel blade, marked with graduation and figuring, and having a blade tip, a return spring and enclosing case, so designed that the blade may be quickly and easily extended from the case and retracted.

(e) *Coated steel tape*—a steel ribbon with a coated finish marked with graduation and figuring, and having a winding drum, a winding handle and a case or reel. When in use the ribbon is not disconnected from the winding drum.

(f) *Etched steel tape*—an instrument similar to a coated steel tape, but with graduation and figuring etched into the metal.

(g) *Stainless steel tape*—an instrument similar to an etched steel tape, but with the ribbon made from a suitable stainless steel.

(h) *Synthetic material tape*—a ribbon of suitable synthetic material marked with graduation and figuring, and having a winding drum, a winding handle and case or reel. When in use the ribbon is not disconnected from the winding drum.

(j) *Etched steel band*—a steel ribbon, similar to an etched steel tape, which may be fitted at each end with a handle or ring. When not in use, the instrument is wound on to a reel, or frame winder.

(k) *Measuring band*—an instrument made of steel ribbon, fitted at each end with a loop to which either a reader, or a handle or ring, may be attached, and graduated with marks on brass sleeves securely attached to the ribbon. When not in use, the instrument is wound on to a reel or frame winder.