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WOODEN AND SYNTHETIC MATERIAL FOLDING RULES

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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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

WOODEN AND SYNTHETIC MATERIAL FOLDING RULES

AS 1291—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 Except for AS 1296 which is now withdrawn each of these standards is the subject of a new edition, issued separately.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 of the 1972 edition have been amended:

3.1 Legs
3.2 Joints
3.6 Cross-section
4.1 Graduation
6 Marking

This standard requires reference to AS 1290, General Requirements for Linear Measuring Instruments Used in Construction.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
WOODEN AND SYNTHETIC MATERIAL FOLDING RULES

1 SCOPE. This standard specifies the requirements for wooden and synthetic folding rules 1 m in length for use in construction.

2 GENERAL REQUIREMENTS. For the purposes of this standard the definitions and requirements for presentation, graduation, figuring and other markings set out in AS 1290 shall apply.

3 CONSTRUCTION, MATERIALS AND FINISH.

3.1 Legs. Each of the four 'legs' of the rule shall be manufactured in one continuous length from boxwood with the grain running parallel to the length, or from a suitable synthetic material with adequate strength and rigidity.

3.2 Joints. The joints connecting the four legs shall consist of a swivel joint at the centre of the rule and hinged joints at the other two positions. The exposed joint components shall be made of hard brass or stainless steel.

A material with low coefficient of friction may be used, where appropriate, for bearing surfaces in the joint components.

3.3 Straightness. The joints shall locate the legs in a straight line during service. Both extreme ends of the rule shall be flat and square to the rule edges.

3.4 End Tips. The extreme ends of a boxwood rule shall be fitted with tips of hard brass or stainless steel, which shall be within the graduated length. These tips shall be of the same width as the rule, shall fit flush with the rule ends, faces and edges, and shall be securely fastened to the boxwood.

3.5 Protective Coating. A boxwood rule shall be finished with a clear durable protective coating.

3.6 Cross-section. A width of 18 mm for each leg of the rule is recommended. In the case of boxwood rules, the recommended thickness is 5 mm.

4 GRADUATION AND FIGURING.

4.1 Graduation. Graduation of the rule shall comply with the following requirements:

(a) One face of the rule shall be graduated along the upper edge with major graduation marks at 100-mm intervals (second order of magnitude), intermediate graduation marks at 10-mm and 5-mm intervals (second and third orders of magnitude respectively), and minor graduation marks at 1-mm intervals (fourth order of magnitude).

(b) The lower edge of that face shall be similarly graduated, except that the 1-mm graduation marks may be omitted (coarse graduation).

(c) The reverse face of the rule shall be graduated in exactly the same manner, except that if the rule has fine and coarse graduations on both faces, the coarse graduation on the reverse face shall preferably be on the upper edge.

(d) Each face of the rule shall be marked 'mm' at a position within the first 25 mm from zero, in close proximity to the minor graduation marks of the fine graduation on one edge.

(e) With either face uppermost, the zero of the graduation on that face shall be the left-hand extremity of the rule.

A folding rule graduated in a manner similar to that shown in Fig. 1 shall be deemed to satisfy the above requirements.

4.2 Graduation Marks. Graduation marks shall be of uniform width, and square to the rule edges.

The width of the graduation marks shall be not less than 0.1 mm nor more than 0.3 mm.

4.3 Form of Figuring. Figuring of the rule shall comply with the following requirements:

(a) Each 100-mm graduation mark shall be figured with numerals denoting the appropriate 3-digit number, positioned centrally to the graduation mark.

(b) Each intervening 10-mm graduation mark shall be figured with numerals from 10 to 90 inclusive, positioned centrally to the graduation mark.

(c) Those figures, the legibility or location of which would be adversely affected by a joint, may be omitted.

(d) The degree of scale interval (i.e. 'mm') shall be marked within 25 mm of the commencement of, and be aligned with, such interval.

Folding rules figured in a manner similar to that shown in Fig. 1 shall be deemed to satisfy the above requirements.

5 ACCURACY. When referred to the standard temperature of 20°C, the following tolerances shall apply:

(a) The flat ends shall be square to the rule edges to within 0.2 mm over the width of a single leg of the rule.

(b) Each joint shall ensure the alignment of the graduated edges of its two associated legs to within 0.5 mm.

NOTE: This requires that when the rule is open at the centre joint but folded at the two hinged joints, so that the two extreme ends of the rule meet over the centre joint, the misalignment of the graduated edges of the two end legs at this centre position shall not exceed 1.5 mm.