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AS 1391—1974
UDC 620.172:669

1991 ed.

Australian Standard 1391—1974

METHODS FOR TENSILE TESTING OF METALS

METRIC UNITS

1391—1991 Methods of tensile testing of metals
(In Professional Packages 19, 36) A4 25pp G

Sets out requirements for test pieces and specifies methods for the uni-axial tensile testing of metals at room temperature to determine tensile strength, yield, proof and permanent set stresses and percentage elongation and reduction of area. It specifies a standard strain rate but allows the use of four supplementary strain rate categories for special test applications.

*Committee MT/6. **Supersedes AS 1391—1974:** Draft for comment DR 83231.*
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Aluminium Development Council

Associated Chambers of Manufactures of Australia

Australian and New Zealand Railways Conferences

Australian Institute of Metals

Bureau of Steel Manufacturers of Australia

Department of Defence Standardization Committee

Department of Manufacturing Industries

Metal Trades Industry Association of Australia

National Association of Testing Authorities

National Measurement Laboratory

Society of Automotive Engineers — Australasia

Universities

This standard, prepared by Committee MT/6, Mechanical Testing of Metals, was approved on behalf of the Council of the Standards Association of Australia on 31 July 1974.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 72173

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AUSTRALIAN STANDARD

METHODS FOR TENSILE TESTING OF METALS

AS 1391—1974

First published (as AS A23) (endorsement of BS 18: 1910) 1928
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PREFACE

This standard was prepared by the Association's Committee on the Mechanical Testing of Metals. It supersedes AS A23—1964, which was the endorsement of BS 18:1962, and its preparation as a self-contained Australian Standard follows the revision of BS 18.

During the preparation of this standard the committee were mindful of the provisions of BS 18, Part 1:1970, Non-ferrous Metals, and ISO* Draft International Standards—

DIS 80 Tensile Testing of Wire

DIS 82 Tensile Testing

DIS 86 Tensile Testing of Sheet and Strip below 3 mm thick

DIS 376 Tensile Testing of Tubes.

Instead of issuing separate standards for each test, the committee prepared a single standard to cover all methods for tensile testing of metals with the exception of transverse tensile tests on round steel pipe which are to be the subject of a separate standard.

Attention is drawn to Appendix E which lists those items which may need to be separately specified; it is particularly intended as a guide for those committees preparing or revising standards for metal products. Other appendices provide information on determination of stresses, force-extension diagrams, determination of percentage elongation after fracture, and records of results.

This standard requires reference to the following Australian and British Standards:

AS 1545	Methods for the Calibration and Grading of Extensometers
AS 1855	Methods for the Determination of Transverse Tensile Properties of Round Steel Pipe
AS 1856	Method for the Determination of K-values of a Tensile Testing System
AS 2193	Methods for the Calibration and Grading of Force-measuring Systems of Testing Machines
BS 3894	Method for Converting Elongation Values for Steel

* International Organization for Standardization.

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