

AS 1100.501—1985

Australian Standard[®]

Technical drawing

**Part 501: Structural engineering
drawing**

This Australian standard was prepared by Committee MS/32, Technical Drawing. It was approved on behalf of the Council of the Standards Association of Australia on 29 May 1985 and published on 4 November 1985.

The following interests are represented on Committee MS/32:

Association for Computer Aided Design Limited
Association of Consulting Engineers Australia
Australian Chamber of Commerce
Australian Gas Association
Bureau of Steel Manufacturers of Australia
CSIRO, Division of Applied Physics
Confederation of Australian Industry
Department of Conservation, Forests and Lands, Victoria
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Department of Defence Support
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Institution of Production Engineers
Master Builders Federation of Australia
Royal Australian Institute of Architects
Society of Automotive Engineers, Australasia
Telecom Australia
University of Melbourne
University of New South Wales
University of Queensland

The following bodies also participated in the preparation of this standard as members of Subcommittee MS/32/3, Structural Drawing:

Australian Institute of Steel Construction Ltd
Concrete Institute of Australia
Department of Technical and Further Education, New South Wales
Forestry Commission of New South Wales
National Association of Australian State Road Authorities
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First published 1985

PREFACE

This standard was prepared by the Association's Committee on Technical Drawing. It constitutes Part 501 of a new multi-part standard designated AS 1100, Technical Drawing, which supersedes the 13-part standard AS 1100, Drawing Practice.

The following Parts have been published:

Part 101—General Principles

Part 201—Mechanical Drawing

Part 401—Engineering Survey and Engineering Survey Design Drawing.

Part 301, Architectural Drawing, is being published concurrently with this Part.

It was in 1976 that the above committee decided that rather than have a standard of many parts it would be better if all aspects of technical drawing were consolidated into fewer parts that would embrace the entire discipline.

The designation AS 1100 has been retained for this new multi-part standard since it is already well established throughout industry and teaching institutions as the Australian standard number for technical drawing. However, to identify these new editions from the previous ones, the designation of 3-digit part numbers has been employed.

This standard deals with drawing practice for engineering structures. The first section deals with the scope of the standard, definitions and classification of documents. The second deals with matters of general application to all drawings. These first two sections, taken together with Part 101 of AS 1100, are intended to provide a common language for the interdisciplinary communication of information by means of drawings. Section 3 deals with particular applications, and gives conventions and abbreviations for use on those drawings. It is intended that reference to Section 3 should only be required for information relating to particular purposes, such as identification of details concerning a specific structure or material.

Consideration must be given to line thickness, symbol height and lettering to ensure that they are suitable for the drawing scale, sheet size and possible filing method, e.g. microfilm.

Supplement No 1 to this standard gives drawings illustrating the use of conventions specified in the standard.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
TECHNICAL DRAWING

PART 501 — STRUCTURAL ENGINEERING DRAWING

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard sets out recommendations for structural engineering drawing practice. It is complementary to AS 1100, Part 101.

The types of structures intended to be dealt with by this standard are generally those covered by structural design and construction codes, particularly the following:

AS 1250	SAA Steel Structures Code
AS 1475	SAA Blockwork Code
AS 1480	SAA Concrete Structures Code
AS 1481	SAA Prestressed Concrete Code
AS 1640	SAA Brickwork Code
AS 1720	SAA Timber Engineering Code
NAA SRA	Bridge Design Specification
AREA	Manual for Railway Engineering

1.2 APPLICATION. The principles given in this standard are intended for adoption by engineers, architects, drafters and builders in both Government authorities and private enterprise throughout Australia.

The standard is intended as a basis for common practice upon which technical organizations can base their own detailed rules or manuals for the preparation and presentation of drafting work.

The application of this standard may require reference to AS 1100, Parts 201, 301 and 401.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1100	Technical Drawing
	Part 101-1984 General Principles
	Part 201-1984 Mechanical Drawing
	Part 301-1985 Architectural Drawing
	Part 401-1984 Engineering Survey and Engineering Survey Design Drawing
AS 1101	Graphical Symbols for General Engineering Part 3-Symbols for Welding
AS 1111	ISO Metric Hexagon Commercial Bolts and Screws
AS 1131	Dimensions of Hot-rolled Structural Steel Sections
AS 1148	Nomenclature of Commercial Timbers Imported into Australia
AS 1163	Structural Steel Hollow Sections
AS 1227	General Requirements for the Supply of Hot-rolled Steel Plates, Sections, Piling and Bars for Structural Purposes
AS 1250	SAA Steel Structures Code
AS 1252	High Strength Steel Bolts with Associated Nuts and Washers for Structural Engineering

AS 1302	Steel Reinforcing Bars for Concrete
AS 1304	Hard—drawn Steel Wire Reinforcing Fabric for Concrete
AS 1480	SAA Concrete Structures Code*
AS 1481	SAA Prestressed Concrete Code†
AS 1511	SAA High—strength Structural Bolting Code
AS 1554	SAA Structural Steel Welding Code
AS 1720	SAA Timber Engineering Code
AS 2543	Nomenclature of Australian Timbers
AS Z5	Welding Terms and Definitions‡
AS XXXX	SAA Masonry Code§

1.4 DEFINITIONS. For the purpose of this standard, the definitions given in AS 1100, Parts 101 and 301, apply.

1.5 CLASSIFICATION OF DOCUMENTS.

1.5.1 Drawings. The following types of drawing can be identified for the purposes of document classification:

- (a) Design layout drawing—a drawing depicting the size, shape and relationship, as designed, of major structural elements.
- (b) Design detail drawing—a drawing depicting all the information required for the construction, in accordance with the design, of any given part of a structure or structural element.
- (c) Shop detail drawing—a drawing depicting all necessary information for the fabrication of structural elements, and intended for use in a workshop.
- (d) General information drawing—a drawing containing information required for the understanding of related drawings, or for the performance of the work depicted on them.
- (e) Work-as-executed drawing—a drawing depicting a structure or structural element as constructed.

1.5.2 Other documents. Other documents can be identified as follows:

- (a) Specification.
- (b) Schedule.
- (c) Estimate of quantities.

1.6 LEGENDS. Legends shall be provided in respect of any symbols used for non-conventional representation of items, such as:

- (a) Joints, e.g. construction joint, expansion joint, contraction joint.
- (b) Set-out lines.

* In course of revision. In this standard specific reference is made to the 1982 edition.

† In course of revision. To be combined with AS 1480.

‡ In course of revision—see DR 83249.

§ In course of preparation as a combination of — AS 1475, SAA Blockwork Code
AS 1640, SAA Brickwork Code