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Australian STANDARD®

STANDARDS Australia

Aluminium and aluminium alloys — Extruded rod, bar, solid and hollow profiles



AS 1866:2026

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- Australian Glass and Window Association
- Australian Industry Group
- Engineers Australia
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Aluminium and aluminium alloys — Extruded rod, bar, solid and hollow profiles

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How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Standards Australia Committee MT-003, Aluminium and Aluminium Alloys, to supersede AS 1866:1997, *Aluminium and aluminium alloys—Extruded rod, bar, solid and hollow shapes.*

The objective of this document is to specify requirements for aluminium and aluminium alloy extruded rod, bar, solid and hollow profiles.

The major changes in this edition are as follows:

(a) Amendment of the Scope to exclude seamless tubing, aero and aero-space applications, and extruded machining rods and hexagonal bars.

(b) Inclusion of T6 mechanical properties for alloys 6060 and 6005A.

(c) Mechanical testing requirements reformatted as a normative appendix as this test is only performed when required.

(d) The informative appendix covering fabrication characteristics and application data modified to only include extrusion alloys.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Australian Standard®

Aluminium and aluminium alloys — Extruded rod, bar, solid and hollow profiles

1 Scope and general

1.1 Scope

This document specifies requirements for aluminium and aluminium alloy extruded rod, bar, and other solid and hollow profiles.

The document does not cover —

(a) seamless tubing;

(b) products for aero and aero-space applications; or

(c) extruded machining rods and hexagonal bars.

NOTE 1 Advice and recommendations on information to be supplied by the purchaser at the time of enquiry or order are contained in the purchasing guidelines set out in Appendix B.

NOTE 2 Typical fabrication characteristics and application data are given in Appendix C.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

AS 1391, *Metallic materials — Tensile testing — Method of test at room temperature*

AS 1815, *Metallic materials—Rockwell hardness test*

AS 1816, *Metallic materials—Brinell hardness test (all parts)*

AS 1817, *Metallic materials—Vickers hardness test (all parts)*

AS 2612, *Aluminium and aluminium alloys—Sampling for chemical and spectrochemical analysis*

AS 2706, *Numerical values—Rounding and interpretation of limiting values*

AS 2848.1, *Aluminium and aluminium alloys—Compositions and designations, Part 1: Wrought products*

BS 1728, *Methods for the analysis of aluminium and aluminium alloys (all parts)*

EN 14242, *Aluminium and aluminium alloys - Chemical analysis - Inductively coupled plasma optical emission spectrometric analysis*

ASTM E 34, *Test methods for chemical analysis of aluminium and aluminium-base alloys (all parts)*

ASTM E 716, *Standard Practices for Sampling and Sample Preparation of Aluminum and Aluminum Alloys for Determination of Chemical Composition by Spark Atomic Emission Spectrometry*

ASTM E 1251, *Standard Test Method for Analysis of Aluminum and Aluminum Alloys by Spark Atomic Emission Spectrometry*

1.3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

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