Australian/New Zealand Standard®

Portable ladders

Part 1: Metal

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF/34, Portable Ladders. It was approved on behalf of the Council of Standards Australia on 8 February 1996 and on behalf of the Council of Standards New Zealand on 19 February 1996. It was published on 5 August 1996.

The following interests are represented on Committee SF/34:

Aluminium Development Council
Australian Chamber of Manufactures
Composites Institute of Australia
Department of Consumer Affairs, N.S.W.
Department of Occupational Health, Safety and Welfare W.A.
Federal Bureau of Consumer Affairs
Ladder Manufacturers Association of Australia
Metal Trades Industry Association of Australia
New Zealand Manufacturers Federation
University of New South Wales
Wellington Manufacturers Association

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This Standard was issued in draft form for comment as DR 94179.

AS/NZS 1892.1:1996

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PUBLISHED JOINTLY BY:

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Homebush NSW 2140 Australia

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Level 10, Radio New Zealand House,
155 The Terrace,
Wellington 6001 New Zealand

ISBN 0 7337 0415 8

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF/34 on Portable Ladders, to supersede AS 1892.1—1986, *Portable ladders*, Part 1: *Metal* and (in part) NZS 5233:1986, *Specification for portable ladders (other than timber ladders)*.

This Standard is one of a series of joint Australian/New Zealand Standards covering the safe design, manufacture and use of portable ladders and attachments. Other Standards in the series are as follows:

AS
1892 Portable ladders
1892.2 Part 2: Portable ladders—Timber

AS/NZS
1892.3 Part 3: Portable ladders—Reinforced plastics

In this edition, the test methods have been included as a set of appendices. The methods of performing the tests have not changed greatly; however, in the light of experience gained from the 1986 edition the methods have been clarified.

Included for the first time in this edition are specific requirements and test methods for multipurpose ladders. This was agreed by the Committee in view of the increasing popularity of this type of ladder.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

During preparation of this Standard, reference was made to the Standards listed below. Acknowledgment is made of the assistance received from these sources:

ANSI A 14.2—1990	Specific requirements for portable metal ladders.
BS 2037 (1984)	Portable aluminium ladders, steps, trestles and lightweight stagings.
CAN3-Z11-M81	Portable ladders
NZS 5233—1986	Specification for portable ladders (other than timber ladders)

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Originated in New Zealand as part of NZS 5233:1971.
Originated in Australia as AS 1892—1977.

Previous New Zealand edition NZS 5233:1986.
Previous Australian edition AS 1892.1—1986.

NZS 5233:1986 (in part) and AS 1892.1-1986 jointly revised and designated AS/NZS 1892.1:1996.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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Part 1: Metal

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard sets out safety requirements for the design and manufacture of portable metal ladders. The Standard provides two duty ratings for industrial ladders and domestic ladders, which are assigned minimum load ratings.

The Standard covers single and multiple-section ladders, multipurpose ladders, combination ladders and those special-purpose ladders defined in Clause 1.6.

The Standard does not cover ladder accessories, such as ladder levellers, ladder stabilizers or stand-off devices, ladder jacks or ladder straps or hooks that may be installed on, or used in conjunction with, ladders.

1.2 OBJECTIVE The objective of this Standard is to provide designers, manufacturers and regulatory authorities with the minimum performance and dimensional requirements for portable metal ladders, in order to minimize the risk to the health and safety of portable ladder users.

1.3 APPLICATION The requirements listed herein specify certain minimum dimensions, strength stability and durability criteria deemed necessary for the safe use of portable metal ladders thereby providing a set of performance and dimensional requirements against which portable metal ladders may be evaluated.

NOTE: For specific directions regarding the use of this Standard by the Department of Defence, see Appendix A.

1.4 PARTICULAR REQUIREMENTS Portable metal ladders shall comply with the relevant requirements of Section 2, General Requirements, and with the specific requirements of the Section(s) appropriate to the type of ladder, as follows:

(a) Single ladders: Section 3.

(b) Extension ladders: Section 4.

(c) Stepladders: Section 5.

(d) Trestle ladders: Section 6.

(e) Multipurpose ladders: Section 7.

(f) Special-purpose ladders: Section 8.

1.5 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1554 Structural steel welding
1554.1 Part 1: Welding of steel structures
1665 Welding of aluminium structures

AS
1866 Aluminium and aluminium alloys—Extruded rod, bar, solid and hollow shapes
2089 Sheave blocks for lifting purposes
4142 Fibre ropes
4142.2 Part 2: Three strand hawser-laid and eight-strand plaited

AS/NZS
2312 Guide to the protection of iron and steel against exterior atmospheric corrosion

ASTM
D 903 Standard test method for peel or stripping strength of adhesive bonds

NZS
4704 Structural steel welding—Welding of steel structures

1.6 DEFINITIONS For the purpose of this Standard, the definitions below apply (see also Figure 1.1).

1.6.1 Articulation—a hinge which is capable of being locked in one or more positions.

1.6.2 Domestic ladder—a ladder designed to be used by a householder for construction, maintenance and repairs carried out at a private dwelling for non-commercial purposes.

1.6.3 Double-sided stepladder—a self-supporting portable ladder of fixed length with two pairs of stiles which are—

(a) hinged or fixed; and

(b) each fitted with treads for ascent and descent.

1.6.4 Dual-purpose stepladder—a self-supporting stepladder of which the back section is fitted with rungs or treads, and which can be further adjusted to provide an extension of the front section as a non-self-supporting portable ladder (in the extended position).

1.6.5 Duty rating—the rating assigned to the ladder, i.e. industrial or domestic, which indicates the service capability of the ladder.

1.6.6 Effective length—the working length of a ladder less end caps and feet where fitted.

1.6.7 Extension ladder—a non-self-supporting portable ladder, consisting of two or more sections travelling in guides, including interlocking stiles or brackets arranged in order to permit adjustment of working length.

1.6.8 Industrial ladder—any ladder other than a domestic ladder.

1.6.9 Load rating—the maximum load including the weight of the user, materials and tools which the ladder is intended to carry, in kilograms.

1.6.10 Maximum working length—

(a) For ladders of adjustable length, the length measured along the stiles, including feet and end caps where fitted, when the ladder is in the fully extended position.

(b) For ladders of fixed length, the overall length measured along the stile, including feet, top and end caps where fitted.

1.6.11 Multipurpose ladder—a portable ladder having one or more pairs of articulation joints which allow the ladder to be rearranged to function as a single ladder, with or without a stand-off, as a single or double-sided stepladder, scaffold or work platform.

1.6.12 Overlap—the distance by which each section of an extension ladder coincides with its matching section.