AS 1892.1—1986
UDC 645.497

Australian Standard®
1892.1—1986

PORTABLE LADDERS
Part 1—METAL

[Title allocated by Defence Cataloguing Authority:
LADDERS (PORTABLE METAL) . . . NSC 5440]

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

F

This Australian standard was prepared by Committee SF/34, Portable Ladders. It was approved on behalf of the Council of the Standards Association of Australia on 22 February 1986 and published on 3 March 1986.

The following interests are represented on Committee SF/34:

Attorney-General's Department
Confederation of Australian Industry
Department of Consumer Affairs, N.S.W.
Department of Employment and Labour Relations, Qld
Department of Housing and Construction
Department of Labour and Industry, W.A.
Electricity Supply Association of Australia
Ladder Manufacturers' Association of Australia Ltd
Metal Trades Industry Association of Australia
National Safety Council of Australia
Plastics Institute of Australia Inc.
Railways of Australia Committee
Safety Institute of Australia
Telecom Australia
University of New South Wales

Review of Australian Standards. *To keep abreast of progress in industry, Australian standards are subject to periodic review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all SAA publications will be found in the Catalogue of SAA Publications; this information is supplemented each month by SAA's journal 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn standards.

Suggestions for improvements to Australian standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This standard was issued in draft form for comment as DR 84112.

AUSTRALIAN STANDARD

PORTABLE LADDERS
Part 1
METAL

AS 1892.1—1986

First published (as AS 1892) 1977
AS 1892.1 first published 1986

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.
ISBN 0 7262 4071 0

PREFACE

This edition of this standard was prepared by the Association's Committee on Portable Ladders, to supersede AS 1892—1977, Portable Metal Ladders.

This standard is one of a proposed series of standards covering the safe design, manufacture and use of portable ladders and attachments. Other standards in the series are as follows:

AS 1892.2 Portable Ladders—Timber*

AS 1892.3 Portable Ladders—Reinforced Plastics†

AS 1892.4 Portable Ladders—Selection, Safe Use and Maintenance‡

AS 1892.5 Portable Ladders—Accessories†

This edition was initiated for a number of reasons including—

(a) the need to amend design and constructional requirements in line with regulatory, manufacturing and user practices;

(b) the desire for rationalized dimensions for the spacings of treads, rungs and stiles for metal and timber ladders;

(c) the request to upgrade the minimum performance requirements for aluminium step ladders, to preclude those models/designs found to be unsatisfactory in service;

(d) the possible application of the Standards Mark to portable metal ladders; and

(e) the need to confirm whether the standard should continue to provide for two grades of ladder (i.e. domestic and industrial).

It is not intended that the rationalized spacings referred to in (b), and adopted also in AS 1892.2, be applied to ladders manufactured prior to the date of publication of this edition.

Significant changes incorporated in this edition are as follows:

(i) Aluminium used for structural components is to be not inferior in mechanical strength to aluminium alloy 6063 when tempered to T5 as specified in AS 1886.

(ii) Load ratings have been upgraded to 150 kg (industrial) and 100 kg (domestic).

(iii) Uniform spacings have been introduced.

(iv) Marking requirements for duty and load ratings have been included.

(v) Testing requirements, in Section 3, have generally been upgraded with a new 'walk test' introduced for step ladders.

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

CAN3-Z11-M81	Portable Ladders
NZS 5233—1981	Specification for Portable Ladders (Other than Timber Ladders)
ANSI A 14.2—1968	Specific Requirements for Portable Metal Ladders.
BS 2037 (1984)	Portable Aluminium Ladders, Steps, Trestles and Lightweight Stagings.

Acknowledgment is also made of the assistance received from the University of New South Wales especially in the development of tests for metal step ladders.

---

* New edition (renumbered and retitled) of AS 1688—1974, Portable Timber Ladders (Including Step-ladders and Trestle-ladders).

† In course of preparation.

‡ In course of preparation (to supersede AS 1689—1974 and Appendix B of AS 1892—1977).

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard for PORTABLE LADDERS

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 for two duty ratings of ladders, viz Industrial Ladders and Domestic Ladders, which are assigned minimum load ratings.

The standard covers single and multiple-section ladders, combination ladders, and those special-purpose ladders defined in Clause 1.5.

The standard does not cover ladder accessories such as ladder levelers, ladder stabilizers or stand-off devices, ladder jacks or ladder straps or hooks that may be installed on, or used in conjunction with, ladders; these devices are covered in AS 1892.5.

NOTE: Guidelines for the selection, safe use and maintenance of portable metal ladders are given in AS 1892.4.

1.2 APPLICATION. The requirements listed herein specify certain minimum dimensions, strength, stability, and durability criteria deemed necessary for the safe use of portable metal ladders. The requirements therefore provide 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.

1.3 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, viz—

(a) Single ladders ..... Section 3.
(b) Extension ladders ..... Section 4.
(c) Step ladders ..... Section 5.
(d) Trestle ladders ..... Section 6.
(e) Special-purpose ladders ..... Section 7.

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

AS 1804 Fibre Rope—Three-strand, Hawser Laid
AS 1554.1 Welding of Steel Structures
AS 1664 SAA Aluminium Structures Code
AS 1665 SAA Aluminium Welding Code
AS 1865 Wrought Aluminium and Alloy Drawn Wire, Rod, Bar and Strip for General Engineering Purposes
AS 1866 Wrought Aluminium and Aluminium Alloy Extruded Rod, Bar, Solid and Hollow Shapes for General Engineering Purposes
AS 1892.4 Portable Ladders—Selection, Safe Use and Maintenance*
AS 1892.5 Portable Ladders—Accessories*
AS 2312 Guide to the Protection of Iron and Steel Against Exterior Atmospheric Corrosion
AS 2089 Sheave Blocks (including Ships' Cargo Blocks) of Maximum Lift 60 t
ASTM D 903-4 (1978) Test Method for Peel or Stripping Strength of Adhesive Bonds

1.5 DEFINITIONS. For the purpose of this standard, the following definitions apply (see also Fig. 1.1):

1.5.1 Portable metal ladder—a readily movable appliance consisting of metal stiles (see Clause 1.5.12) joined at regular intervals by cross-pieces called rungs or treads (see Clause 1.5.13), on which a person may stand or step in ascending or descending.

1.5.2 Domestic ladder—a ladder used by a householder for maintenance and repairs carried out by himself around his own dwelling.

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

1.5.4 Single ladder—a non-self-supporting portable ladder, of fixed length, consisting of one section.

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

1.5.6 Single-sided step ladder—a self-supporting portable ladder, of fixed length, with flat treads for ascent and descent and a hinged back not intended for ascent or descent. Variations in designs of single-sided ladders include the following:

(a) *Platform step ladder*—a single-sided step ladder with a specially designed substantial platform fitted between the front and back sections (stiles and back legs) near the top to provide a working area.

(b) *Dual-purpose step ladder*—a single-sided step ladder the back section of which is fitted with rungs and which can support the front section, and

* In course of preparation.