AS/NZS 1892.3:1996

Australian/New Zealand Standard®

Portable ladders

Part 3: Reinforced plastic

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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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF/34 on Portable Ladders, as a first edition in Australia, and to supersede (in part) NZS 5233:1986, *Specification for portable ladders (other than timber ladders)*.

It is one of a series of Australian Standards covering the safe design, manufacture and use of portable ladders and accessories. Other Standards in the series are the following:

AS
1892.2 Part 2: Portable ladders—Timber

AS/NZS
1892.1 Part 1: Portable ladders—Metal

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 the development of this Standard, reference was made to ANSI A14.5—1992 *Ladders—Portable reinforced plastic—Safety requirements*. Acknowledgment is made of the assistance received therefrom.

CONTENTS

Page

Page

Page

Originated in New Zealand as part of NZS 5233:1981.
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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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SECTION 1 SCOPE AND GENERAL

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

The Standard covers single and multiple-section ladders, multipurpose ladders, stepladders and combination ladders.

The Standard does not cover ladder accessories, including 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 reinforced plastic ladders, in order to minimize risks 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 reinforced plastic ladders, thereby providing a set of performance and dimensional requirements against which portable reinforced plastic ladders may be evaluated.

1.4 PARTICULAR REQUIREMENTS Portable reinforced plastic 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) Multi-purpose ladders: Section 7.

(f) Special purpose ladders: Section 8.

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

AS	
2089	Sheave blocks for lifting purposes
AS/NZS	
1892	Portable ladders
1892.1	Part 1: Metal

AS/NZS	
4142	Fibre ropes
4142.2	Part 2: Three-strand, hawser-laid and eight-strand plaited
ASTM	
D 149	Test methods for dielectric breakdown voltage and dielectric strength of solid electrical insulating materials at commercial power frequencies
D 229	Standard test methods for rigid sheet and plate materials used for electrical insulation
D 709	Specification for laminated thermosetting materials
D 790	Test methods for flexural properties of unreinforced and reinforced plastics and electrical insulating materials
D 792	Test methods for density and specific gravity (relative density) of plastics by displacement
D 903	Test method for peel or stripping strength of adhesive bonds
D 1499	Practice for operating light- and water-exposure apparatus (carbon-arc type) for exposure of plastics
D 2565	Practice for operating xenon arc-type light-exposure apparatus with and without water for exposure of plastics
D 2583	Test method for indentation hardness of rigid plastics by means of a Barcol impressor
G 23	Practice for operating light-exposure apparatus (carbon-arc type) with and without water for exposure of nonmetallic materials
G 26	Practice for operating light-exposure apparatus (xenon-arc type) with and without water for exposure of nonmetallic materials
G 53	Practice for operating light- and water-exposure apparatus (fluorescent UV-condensation type) for exposure of nonmetallic materials

1.6 DEFINITIONS For the purpose of this Standard, the definitions below apply.

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

1.6.2 Composite—a homogeneous material created by the synthetic assembly of two or more materials (a selected filler or reinforcing elements and a compatible matrix binder), to obtain specific characteristics and properties.

1.6.3 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.

1.6.4 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.

1.6.5 Dual-purpose stepladder—a self-supporting stepladder where 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).

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

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