

Australian Standard[®]

Fibre ropes

**Part 3: Man-made fibre rope for
static life rescue lines**

This Australian Standard was prepared by Committee TX/4, Ropes and Cordage. It was approved on behalf of the Council of Standards Australia on 9 August 1993 and published on 22 November 1993.

The following interests are represented on Committee TX/4:

Australian Chamber of Commerce and Industry
Australian Chamber of Manufactures
Australian Lightweight Vertical Rescue Instructors
Australian Maritime Safety Authority
Department of Defence
Emergency Management Australia
New South Wales Fire Brigades
Police Department, N.S.W.
South Australian State Emergency Service
State Emergency Services, N.S.W.
Textile Clothing and Footwear Council of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Ropes and Cordage to specify ropes which meet the requirements of rescue and emergency services in Australia. In the preparation of this Standard the following documents were consulted:

ANSI/NFPA 1983-1985 *Fire services life safety rope, harnesses and hardware*

*UIAA *Label Standards (1990)*

This Standard is part of a series of Standards on fibre ropes. Particular attention is drawn to—

- (i) AS 4142.1 *Fibre ropes, Part 1: Care and safe usage*; and
- (ii) AS 4143, *Methods of test for fibre ropes*

The Committee considered inclusion of a requirement for the resistance of rope to abrasion. However, a suitable test method was not available. The basic procedure for such a test had been established but specification of the abrasive surface in sufficient detail for its consistent reproduction, proved to be a problem. The Committee intends to add a performance requirement for the resistance of rope to abrasion as soon as the appropriate test method has been finalized. To solicit assistance with the finalization of the test method, the procedure has been published as AS 4143.6 (Draft), *Methods of test for fibre ropes, Method 6: Resistance to abrasion*.

* International Union of Climbing Associations

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STANDARDS AUSTRALIA

Australian Standard

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies design, performance and marking requirements for man-made fibre ropes of sheath and core construction for use as static life rescue lines by life rescue organizations.

NOTE: In the context of this Standard 'static' refers to the design and performance characteristics of a rope and not to usage.

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

AS

2001	Methods of test for textiles
2001.4.2	Method 4.2: Colourfastness tests—Determination of colourfastness to daylight
2001.4.3	Method 4.3: Colourfastness tests—Determination of colourfastness to rubbing
2001.4.8	Method 4.8: Colourfastness tests—Determination of colourfastness to water
2001.4.21	Method 4.21: Colourfastness tests—Determination of colourfastness to light using an artificial light source (mercury vapour, tungsten filament, internally phosphor-coated lamp)
4142	Fibre ropes
4142.1	Part 1: Care and safe use
4143	Methods of test for fibre ropes
4143.1	Method 1: Dimensions, linear density, breaking force and elongation
4143.2	Method 2: Knotability and knot breaking force
4143.3	Method 3: Sheath slippage
4143.4	Method 4: Impact strength index

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

1.3.1 Braid—synonymous with plait.

1.3.2 Carrier—a group of adjacent strands or yarns in a plaited rope which, together, always go under or over other carriers.

1.3.3 Filament—the individual element in a yarn.

1.3.4 Monofilament—either simply a single filament or a single filament which can function as a yarn in commercial textile operations.

1.3.5 Yarn—a generic term for a continuous strand of textile fibres, filaments, or material in a form suitable for processing to form a textile fabric. The forms yarns can take are: a number of fibres twisted together; a number of filaments laid together with (or without) twist; a single filament with or without twist (a monofilament yarn); or one or