Australian Standard®

Methods of test for fibre ropes

Method 2: Knotability and knot breaking force

PREFACE

This Standard was prepared by the Standards Australia Committee on Ropes and Cordage. The Standard is based on the method used by the International Union of Alpinist Associations (UIAA) for testing ropes for mountaineering.

METHOD

1 SCOPE This Standard sets out methods for measuring the knotability and knot breaking force of fibre rope.

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

AS
2193 Method for calibration and grading of force-measuring systems of testing machines

4142 Fibre ropes
4142.1 Part 1: Care and safe usage
4142.2 Part 2: Three-strand hawser-laid and eight-strand plaited
4142.3 Part 3: Man-made fibre rope for static life rescue lines

4143 Methods of test for fibre ropes
4143.1 Method 1: Dimensions, linear density, breaking force and elongation

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 4142.1, AS 4142.2 and AS 4142.3 and that below apply.

3.1 Breaking force—the maximum force recorded in breaking a test specimen.

NOTE: This is also the minimum force needed to break a test specimen.

4 PRINCIPLE

4.1 Knotability Knotability is obtained by making an overhand knot in the test specimen and inserting a tapered rod through the knot whilst the sample is under a given tension, measuring the maximum diameter to which it can be inserted.

4.2 Knot breaking force Knot breaking force is obtained by making an overhand knot in the test specimen and then determining the breaking force in accordance with AS 4143.1.