Australian Standard®

Methods of test for fibre ropes

Method 3: Sheath slippage

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 a method for measuring the sheath slippage of man-made fibre rope. The method is only applicable to ropes constructed with more than one layer, i.e. ropes with a sheath and a core.

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

AS
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

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

4 PRINCIPLE Sheath slippage is obtained by pulling a test specimen through a testing apparatus in which movement of the test specimen is restricted by the radial forces applied by loaded movable plates. The resulting friction on the sheath may produce an axial movement of the sheath along the core. Any such slippage is measured.

5 APPARATUS The following apparatus is required:

(a) A testing apparatus, as shown in Figures 1 to 4, comprising a casing in which four steel plates are fixed with their planes at 90° to the axis of the rope being tested. These fixed plates are separated by three spacing pieces which provide slots into which three moving plates are fitted and can slide freely. These moving plates are arranged so that their planes are also at 90° to the axis of the rope and their axes are at 120° to each other. Each plate is of steel 10 mm thick and has a hole in it through which the rope is passed. At rest position, when the moving plates are at their innermost end of their movement,