Australian Standard®

Methods of test for hose made from elastomeric materials

Method 14: Determination of reeling properties of non-collapsible hose

PREFACE

This Standard was prepared by the Standards Australia Committee on Industrial Hose at the request of the Australian Institute of Petroleum, which recognized the need for a method for determining the reeling properties of hose.

In the preparation of this Standard, account has been taken of ISO 4672: 1978, *Rubber and plastics hoses—Sub-ambient temperature flexibility tests*, and BS 3158: 1985, *Specification for rubber hoses and hose assemblies for aircraft ground fuelling and defuelling*.

METHOD

1 SCOPE This Standard sets out the method for determining the reeling properties of non-collapsible hose with internal diameters up to 75 mm and intended for winding onto a reel.

2 REFERENCED DOCUMENT The following document is referred to in this Standard:

AS
2683 Hose and hose assemblies for distribution of petroleum and petroleum products (excepting LPG)

3 PRINCIPLE A test piece of hose filled with coolant is wound onto a reel (of specified drum size) which is fitted with a torque-measuring system of capacity sufficient to effect reeling and the torque required is measured.

4 REAGENTS

4.1 Coolant solution A water and ethylene glycol mixture containing 25% *(V/V)* ethylene glycol.

NOTE: Care should be taken to ensure that the hose is not affected by the coolant solution.

4.2 Solvents

4.2.1 For use with Grade 1 hose A mixture comprising 30 parts by volume of toluene (1-degree nitrogen grade) and 70 parts by volume of 2,2,4-trimethyl-pentane (*iso*-octane) for use with Grade 1 hose as specified in AS 2683.

4.2.2 For use with Grades 2 and 3 hose A mixture comprising 40 parts by volume of toluene (1-degree nitrogen grade) and 60 parts by volume of 2,2,4-trimethyl-pentane (*iso*-octane) for use with Grades 2 and 3 hose as specified in AS 2683.

5 APPARATUS The following apparatus is required:

(a) *Torque wheel*—having a diameter that can be adjusted in accordance with Table 1. It is fitted with a torque application and measuring system and allows for a method of applying a constant pressure to the test piece (see Figure 1).

(b) *Mounting and guide devices*—such as to ensure that the test piece will be held and wound tangentially to the torque wheel.