Australian Standard®

Methods of testing bitumen and related roadmaking products

Method 4: Determination of dynamic viscosity by rotational viscometer

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH/25 on Bitumen and Related Products for Roadmaking to supersede AS 2341.4—1980.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

METHOD

1 SCOPE This Standard sets out procedures for the determination of dynamic viscosity of bituminous materials at a defined shear rate, using constant rate of rotation viscometers with standard concentric cylinder measuring geometries.

2 REFERENCED AND RELATED DOCUMENTS

2.1 Referenced documents The following documents are referred to in this Standard:

AS/NZS
2341 Methods of testing bitumen and related roadmaking products
2341.1 Part 1: Precision data—Definitions

AS
3882 Rheology—Glossary of terms and classification of properties

2.2 Related document Attention is drawn to the following related document:

DIN
53019 Determination of viscosities and flow curves using standard design rotary viscometers with a standard geometry measuring system

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 3882 apply.

4 PRINCIPLE The material being tested is sheared in the annular space between two concentric cylinders by rotating the inner cylinder (rotor) at a constant speed and keeping the outer cylinder (cup) stationary. The torque generated in the drive to the inner cylinder by the viscous resistance of the material is measured by a torque transducer, usually by the angular displacement of a torsion element, such as a spring or torsion bar. (See Figure 1.)