Australian Standard™

Methods of test for elastomers

Method 16.3: Determinations using a shearing-disc viscometer—Determination of the Delta Mooney value for non-pigmented, oil-extended, emulsion-polymerized styrene-butadiene rubber

PREFACE

This Standard was prepared by the Standards Australia Committee RU-003, Analysis and Testing of Elastomers to supersede in part AS 1683.16—1981, *Methods of test for rubber*, Method 16: *Natural and synthetic rubbers—Determination of viscosity and scorch characteristics by shearing disc (Mooney) viscometer*.

The objective of this Standard is to provide manufacturers and users of elastomeric materials with a method using a shearing-disc viscometer for measuring the Delta Mooney value of non-pigmented, oil-extended emulsion-polymerized styrene-butadiene rubber.

The Delta Mooney value provides a means of predicting the behaviour, or processibility, of rubber during the primary stages of mixing, extruding and calendering. It is usually associated with non-pigmented, oil-extended emulsion styrene-butadiene rubber, but it can be of use in providing information about the behaviour of other types. In the latter case, however, the conditions of test specified in this Standard may not be suitable.

This Standard is identical with and has been reproduced from ISO 289-3:1999, *Rubber, vulcanized—Determination using a shearing disc viscometer,* Part 3: *Determination of the Delta Mooney value for non-pigmented, oil-extended, emulsion-polymerized SBR.*

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text, 'this part of ISO 289' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by equivalent Australian Standards as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
289	Rubber, unvulcanized—Determination using a shearing-disc viscometer	1683	Methods of test for elastomers
289-1	Part 1: Determinations of Mooney viscosity	1683.16.1	Method 16.1: Determinations using a shearing-disc viscometer—Determination of Mooney viscosity.

Standards Australia

ISO		AS
1795	Rubber, raw, natural and synthetic—Sampling and further preparative procedures	—

WARNING — Persons using this part of ISO 289 should be familiar with normal laboratory practice. This part of ISO 289 does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This part of ISO 289 specifies a method for determining the Delta Mooney value of non-pigmented, oil-extended emulsion-polymerized styrene-butadiene rubber.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 289. For dated references, subsequent amendments to or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 289 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 289-1:1994, *Rubber, unvulcanized — Determinations using a shearing-disc viscometer — Part 1: Determination of Mooney viscosity.*

ISO 1795 :—[1)], *Rubber, raw, natural and synthetic — Sampling and further preparative procedures.*

3 Terms and definitions

For the purposes of this part of ISO 293, the following terms and definitions apply:

3.1
Delta Mooney A values

A1 value
the difference between the Mooney viscosities of an **unmassed** test sample recorded at 15 min and 1 min, i.e. ML(1+15) – ML(1+1)

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1) To be published. (Revision of ISO 1795:1992)