Australian Standard™

Methods of test for elastomers

Method 19: Preparation, mixing and vulcanization of rubber test mixes—Equipment and procedures

PREFACE

This Standard was prepared by the Standards Australia Committee RU-003, Analysis and Testing of Elastomers to supersede AS 1683.19—1981, *Methods of test for rubber,* Method 19: *Rubber test mixes—Preparation, mixing and vulcanization—Equipment and procedures*.

The objective of this Standard is to provide manufacturers and users of elastomeric materials with procedures and description of equipment for the preparation, mixing and vulcanization of rubber test mixes.

This Standard is identical with and has been reproduced from ISO 2393:1994, *Rubber test mixes—Preparation, mixing and vulcanization—Equipment and procedures*.

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 International Standard' 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*	
37	Rubber, vulcanized or thermoplastic—Determination of tensile stress-strain	1683 1683.11	Method of test for elastomers Method 11: Tension testing of vulcanized or thermoplastic rubber
289 289-1	Rubber, unvulcanized—Determinations using a shearing-disc viscometer Part 1: Determination of Mooney viscosity	1683.16.1	Method 16.1: Determinations using a shearing-disc viscometer—Determination of Mooney viscosity
471	Rubber—Times temperatures and humidities conditioning and testing	1683.20	Method 20: Standard temperatures, humidities and times for conditioning and testing
3417	Rubber—Measurement of vulcanization characteristics with the oscillating disc curimeter	1683.22	Method 22: Determination of vulcanizing characteristics using the oscillating disc curemeter

NOTES

1 Scope

This International Standard specifies the equipment and procedures for the preparation, mixing and vulcanization of test mixes, as specified in the rubber evaluation procedures.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 37:1994, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties.*

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

ISO 471:—[1], *Rubber — Times, temperatures and humidities for conditioning and testing.*

ISO 3417:1991, *Rubber — Measurement of vulcanization characteristics with the oscillating disc curemeter.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 formulation batch mass: The aggregate mass, in grams, of all the constituents in a formulation, with the rubber or oil-extended rubber polymer being taken as 100 g, or as specified in the appropriate rubber evaluation procedure.

3.2 batch mass: The mass of test mix prepared in one mixing operation.

3.3 total free volume: The volume of the mixing chamber with the rotors in place.

3.4 nominal mixer capacity: The proportion of the total free volume which is used in the mixing process; a value of 0,75 times the total free volume has been found suitable for mixers with tangential rotors.

4 Compounding ingredients

The compounding ingredients required for the various standard test formulations shall be in accordance with national or international standards as specified in the appropriate rubber evaluation procedure.

1) To be published. (Revision of ISO 471:1983 and ISO 1826:1981)