STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1683.15.2–1990
Methods of test for elastomers
Method 15.2: Durometer hardness

RECONFIRMATION NOTICE

Major stakeholders of this publication have reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 29 August 2018.

Australian Standard®

Methods of test for elastomers

Method 15.2: Durometer hardness

PREFACE

This Standard was prepared by the Standards Australia Committee on Analysis and Testing of Elastomers under the direction of Committee RU/—, Standards for the Rubber Industry to supersede, in part, AS 1683.15—1976, *Methods of Test for Rubber* Part 15: *Indentation Hardness of Rubber and Plastics by Means of a Durometer.*

This edition corrects some errors in equations and introduces standard rubbers as a means of verifying durometers. At the same time, the opportunity has been taken to introduce the dead load hardness procedure which is specified in Method 15.1.

In the preparation of this Standard, account was taken of the following:

ISO	
48—1979	*Vulcanized rubbers—Determination of hardness (hardness between 30 and 85 IRHD)*
BS	
903—1969	*Methods of testing vulcanized rubber Part A26: Determination of hardness*
2719—1975	*Methods of use and calibration of pocket type rubber hardness meters*
ASTM	
D 2240—1986	*Test method for rubber property—Durometer hardness*

FOREWORD

Hardness is determined by the penetration of specified indentors into the material under prescribed conditions. The method permits measurement of initial indentation or the indentation after specified periods, or both. The indentation hardness is inversely related to the penetration of the indentor and is dependent on the elastic modulus and visco-elastic behaviour of the material. The shape of the indentor and the force applied to it influence the results obtained and thus there may be no simple relationship between the results obtained using the different types of hardness-measuring instruments.

Hardness of elastomeric materials is measured on three scales, as follows:

(a) International Rubber Hardness Degrees (IRHD), as used in the dead load method (AS 1683.15.1).

(b) Durometer Hardness Degrees, Type A, used for measuring softer materials (AS 1683.15.2).

NOTE: Such materials would have a value approximating 30-90 IRHD.

(c) Durometer Hardness Degrees, Type D, used for measuring harder materials (AS 1683.15.2).

NOTE: Such materials would have a value above 90 IRHD.

No simple relationship exists between indentation hardness determined by AS 1683.15.2 and any fundamental property of the materials tested.

METHOD

1 SCOPE This method sets out the procedure for determining durometer hardness of elastomeric materials.

Procedures are also given for verification of testing equipment.