Flexible cellular polymeric materials - Determination of hardness (indentation technique)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 2439:2009 sisaldab Euroopa standardi EN ISO 2439:2008 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 2439:2009 consists of the English text of the European standard EN ISO 2439:2008.
Standard on kinnitatud Eesti Standardikeskuse 29.01.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 29.01.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.12.2008.	Date of Availability of the European standard text 15.12.2008.
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Flexible cellular polymeric materials - Determination of hardness (indentation technique) (ISO 2439:2008)

Matériaux polymères alvéolaires souples - Détermination de la dureté (technique par indentation) (ISO 2439:2008)

Weich-elastische polymere Schaumstoffe - Bestimmung der Härte (Eindruckverfahren) (ISO 2439:2008)

This European Standard was approved by CEN on 19 November 2008.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 2439:2008) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2009, and conflicting national standards shall be withdrawn at the latest by June 2009.

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Endorsement notice

The text of ISO 2439:2008 has been approved by CEN as a EN ISO 2439:2008 without any modification.

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WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard 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

The indentation hardness of flexible cellular materials is a measure of their load-bearing properties. This International Standard specifies four methods (A to D) for the determination of indentation hardness and one method (E) for determination of compressive deflection coefficient and hysteresis loss rate of flexible cellular materials. Annex A provides a summary of test parameters and typical force-indentation graphs obtained with these methods.

These five methods are applicable only to latex foam, urethane foam and PVC foam of the open-cell type. The methods specified can be used for testing finished articles and for the characterization of bulk material.

This International Standard specifies the following methods:

a) Method A — Determination of the 40 %/30 s indentation hardness index, which gives a single indentation measurement for laboratory test purposes;

b) Method B — Determination of the 25 %-40 %-65 %/30 s indentation hardness characteristics, which provides information about the shape of the hardness indentation curve;

c) Method C — Determination of the 40 % indentation hardness check, which is a quick procedure suitable for quality control testing;

d) Method D — Determination of the 25 %/20 s low indentation hardness index, which is a quick procedure suitable as an inspection test;

e) Method E — Determination of the compressive deflection coefficient and hysteresis loss rate, which gives additional information about the load-bearing properties of materials.

The results obtained by these methods relate only to the test conditions specified and cannot, in general, be used directly for design purposes.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1382, *Rubber — Vocabulary*