BS EN ISO 7231:2023

BSI Standards Publication

Polymeric materials, cellular, flexible — Determination of air flow value at constant pressure-drop

National foreword

This British Standard is the UK implementation of EN ISO 7231:2023. It is identical to ISO 7231:2023. It supersedes BS EN ISO 7231:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/24, Testing of rigid and flexible cellular materials.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

Polymeric materials, cellular, flexible - Determination of air flow value at constant pressure-drop (ISO 7231:2023)

Matériaux polymères alvéolaires souples - Détermination de l'indice d'écoulement d'air à chute de pression constante (ISO 7231:2023)

Weich-elastische Polymerschaumstoffe - Bestimmung der Luftdurchlässigkeit bei konstantem Differenzdruck (ISO 7231:2023)

This European Standard was approved by CEN on 6 August 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 7231:2023 E

European foreword

This document (EN ISO 7231:2023) 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 SIS.

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of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 7231:2010.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 7231:2023 has been approved by CEN as EN ISO 7231:2023 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses),* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 7231:2010), which has been technically revised.

The main changes are as follows:

— the previous Annex A has been moved to Clause 6 as method B2;

— the previous 6.5 (the precision of method B1) has been moved to a new Annex A.

— the previous precision of method B2 has been added to a new Annex A.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

INTERNATIONAL STANDARD ISO 7231:2023(E)

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WARNING — Persons using this document should be familiar with normal laboratory practice. This document 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 determine the applicability of any national regulatory conditions.

1 Scope

This document specifies two methods for determining the air flow value of flexible cellular polymeric materials:

— method A, for conventional types of flexible cellular polymeric material;

— method B, for all types of flexible cellular polymeric material, but especially for materials with a low permeability to air.

For method B, two methods are specified in this document:

— method B1: with manual measurement;

— method B2: with automatic measurement.

NOTE 1 Air flow values can be used to give an indication of the effects of formulation and production variables on the cellular structure.

NOTE 2 In this document, the expression “conventional type of flexible cellular polymeric material” means types which are unsuitable for sealing purposes.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
air flow value
volume flow rate required to maintain a constant pressure differential across a flexible foam test piece

4 Principle

A specified constant air pressure differential is created across a standard flexible foam specimen. The rate of flow of air required to maintain this pressure differential is measured as the air flow value.