BS EN ISO 844:2021

BSI Standards Publication

Rigid cellular plastics — Determination of compression properties

National foreword

This British Standard is the UK implementation of EN ISO 844:2021. It is identical to ISO 844:2021. It supersedes BS EN ISO 844:2014, which is withdrawn.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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EUROPEAN STANDARD

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EN ISO 844

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English Version

Rigid cellular plastics - Determination of compression properties (ISO 844:2021)

Plastiques alvéolaires rigides - Détermination des caractéristiques de compression (ISO 844:2021)

Harte Schaumstoffe - Bestimmung der Druckeigenschaften (ISO 844:2021)

This European Standard was approved by CEN on 31 January 2021.

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

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European foreword

This document (EN ISO 844:2021) has been prepared by Technical Committee ISO/TC 61 "Plastics" 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of an identical text or by endorsement, at the latest by October 2021, and conflicting national standards shall be withdrawn at the latest by October 2021.

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 844:2014.

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Endorsement notice

The text of ISO 844:2021 has been approved by CEN as EN ISO 844:2021 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 documents 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 10, *Cellular plastics*, 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 seventh edition cancels and replaces the sixth edition (ISO 844:2014), which has been technically revised. The main changes compared to the previous edition are as follows:

— different extensometer gage lengths have been given for use with different specimen thicknesses;

— repeatability and reproducibility results from the interlaboratory test on Procedure B have been added for compressive strength and compressive modulus of elasticity measurements;

— Annex A has been added to provide information on the determination of the compressive modulus by means Procedure B.

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 844:2021**

Rigid cellular plastics — Determination of compression properties

1 Scope

This document specifies methods for determining the compressive strength and corresponding relative deformation, the compressive stress at 10 % relative deformation, and the compressive modulus of rigid cellular plastics.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 1923, *Cellular plastics and rubbers — Determination of linear dimensions*

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

ISO 9513, *Metallic materials — Calibration of extensometer systems used in uniaxial testing*

3 Terms and definitions

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

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

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

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

3.1
nominal relative deformation (procedure A)
ε_C
ratio of the reduction (in relation to its initial value) in thickness of the test specimen

Note 1 to entry: It is expressed as a percentage.

Note 2 to entry: $\varepsilon_{C\mathrm{m}}$ is the nominal relative deformation corresponding to σ_{m} (see 3.3).

3.2
relative deformation (procedure B)
ε
ratio of the reduction (in relation to its initial value) of extensometer gauge length

Note 1 to entry: It is expressed as a percentage.

Note 2 to entry: ε_{m} is the relative deformation corresponding to σ_{m} (see 3.3).