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BS EN ISO 844:2014



BSI Standards Publication

Rigid cellular plastics — Determination of compression properties

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This British Standard is the UK implementation of EN ISO 844:2014. It supersedes BS EN ISO 844:2009 which is withdrawn.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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 69484 4

ICS 83.100

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 August 2014.

Amendments issued since publication

Date	Text affected
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EUROPÄISCHE NORM

August 2014

ICS 83.100

Supersedes EN ISO 844:2009

English Version

Rigid cellular plastics - Determination of compression properties (ISO 844:2014)

Plastiques alvéolaires rigides - Détermination des
caractéristiques de compression (ISO 844:2014)

Harte Schaumstoffe - Bestimmung der Druckeigenschaften
(ISO 844:2014)

This European Standard was approved by CEN on 7 July 2014.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 844:2014) 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of an identical text or by endorsement, at the latest by February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

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

This document supersedes EN ISO 844:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 844:2014 has been approved by CEN as EN ISO 844:2014 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 10, *Cellular plastics*.

This sixth edition cancels and replaces the fifth edition (ISO 844:2007), which has been technically revised to specify the choice of the procedure for the determination of the compressive strength and corresponding relative deformation, the compressive stress at 10 % relative deformation and the compressive modulus of rigid cellular plastics.

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Rigid cellular plastics — Determination of compression properties

1 Scope

This International Standard specifies a method of determining:

- a) the compressive strength and corresponding relative deformation,
- or
- b) the compressive stress at 10 % relative deformation,
- and
- c) when desired, the compressive modulus of rigid cellular plastics.

There are two procedures:

- Procedure A employs crosshead motion for determination of compressive properties. Procedure A is intended to be used when compressive stress at 10 % relative deformation has to be determined.
- Procedure B employs strain measuring devices mounted on the specimen (contact extensometer) or similar device which measures directly sample deformation. Procedure B is intended to be used when compressive modulus has to be determined.

NOTE Compressive strength (at maximum load) can be determined either with Procedure A and B.

2 Normative references

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

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

3 Terms and definitions

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

3.1

relative deformation

ε

ratio of the reduction (in relation to its initial value) in thickness of the test specimen (Procedure A) or of extensometer gauge length (Procedure B)

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 3.2).

3.2

compressive strength

σ_m

maximum compressive force F_m divided by the initial cross-sectional area of the test specimen when the relative deformation ε is < 10 %