BSI Standards Publication

Thermal insulating products for building applications — Determination of compression behaviour

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National foreword

This British Standard is the UK implementation of EN ISO 29469:2022. It is identical to ISO 29469:2022. It supersedes BS EN 826:2013, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/540/8, Mirror committee for ISO/TC 163 - Thermal Performance and Energy use in the built Environment.

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

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English Version

Thermal insulating products for building applications - Determination of compression behaviour (ISO 29469:2022)

Produits isolants thermiques destinés aux applications du bâtiment - Détermination du comportement en compression (ISO 29469:2022)

Wärmedämmstoffe für das Bauwesen - Bestimmung des Verhaltens bei Druckbeanspruchung (ISO 29469:2022)

This European Standard was approved by CEN on 23 October 2022.

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European foreword

This document (EN ISO 29469:2022) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with Technical Committee CEN/TC 88 “Thermal insulating materials and products” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by November 2025.

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 826:2013.

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 29469:2022 has been approved by CEN as EN ISO 29469:2022 without any modification.

Contents

Foreword

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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 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 88, *Thermal insulating materials and products,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 29469:2008), which has been technically revised.

The main changes are as follows:

— subclause 5.1 has been modified;

— the conditioning and testing conditions in 6.4 and 7.1 have been modified;

— subclause 8.1.2 has been clarified;

— Annex A, modifications have been made to the general test method for cellular glass products to include capping in the test protocol;

— some editorial corrections have been made.

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 29469:2022

Thermal insulating products for building applications — Determination of compression behaviour

1 Scope

This document specifies the equipment and procedures for determining the compression behaviour of specimens. It is applicable to thermal insulating products and can be used to determine the compressive stress in compressive creep tests and for applications in which insulation products are exposed only to short-term loads.

The method can be used for quality control purposes and can also be employed to obtain reference values from which design values can be calculated using safety factors.

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 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 29768, *Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

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
strain
ε
ratio of the reduction in thickness of the test specimen to its initial thickness, d_0, measured in the direction of loading and expressed as a percentage

3.2
compressive strength
σ_m
ratio of the maximum compressive force, F_m, reached when the strain, ε, at yield [see Figure 1 b)] or rupture [see Figure 1 a)] is less than 10 %, to the initial cross-sectional area of the test specimen

3.3
compressive stress at 10 % strain
σ_{10}
ratio of the compressive force, F_{10}, at 10 % strain, ε_{10}, to the initial cross-section of the test specimen [see Figure 1, c) and d)] for products presenting 10 % strain before possible yield or rupture