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Rigid cellular plastics — Determination of shear properties

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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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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 10, *Cellular plastics*.

This fifth edition cancels and replaces the fourth edition (ISO 1922:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— title has been modified as: Rigid cellular plastics — Determination of shear properties;

— Clauses 2, 4, 5, 7, 8, 9 have been technically revised.

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.

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Rigid cellular plastics — Determination of shear properties

1 Scope

This document specifies a procedure of determining the shear strength of rigid cellular plastics. It also provides for the determination of shear modulus and shear strain.

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 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*

3 Terms and definitions

No terms and definitions are listed in this document.

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/

4 Principle

A shear stress is applied to a test specimen of defined shape by means of rigid specimen supports bonded to the specimen.

There are two procedures:

— Procedure A, which is recommended for shear strength measurement only;

— Procedure B, which uses an extensometer or similar device to measure displacement and is, thus, the recommended method to calculate the shear modulus and strain (and strength as well).

5 Apparatus

5.1 Test machine

5.1.1 General

A test machine capable of applying a sufficient force within the maximum displacement experienced in the shear test.

It shall be capable of operating at a constant rate of movement of the movable head of (1 ± 0,5) mm/min in a direction parallel to the longitudinal axis of the test specimen assembly.

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