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Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification

Appareils d'essai du caoutchouc et des plastiques — Types pour traction, flexion et compression (vitesse de translation constante) — Spécifications

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analyses*.

This fourth edition cancels and replaces the third edition (ISO 5893:2002), of which it constitutes a minor revision. A few editorial changes 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.

Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification

1 Scope

This document specifies requirements for tensile-testing systems operating at constant rate of traverse and suitable for testing rubbers, plastics and adhesives, although any one system might only be applicable to a narrower range of materials. It also covers such systems when used for flexural, shear and compression tests.

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 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

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
tensile-testing system
machine composed of a nominally fixed member and a movable member, to which may be attached suitable grips or jigs for holding a test piece

Note 1 to entry: The movable member is power-driven and might be equipped with adjustable speed control. The machine has a force-measuring system complete with indicator and/or recorder. In addition, a system might be included for measuring the extension or deflection of the test piece.

3.2
applied force
force which produces the distortion in the test piece, measured along the strain axis of the machine

Note 1 to entry: For the purpose of this definition, "grip" is taken to mean "platen" or other member for application of force to the test piece when the machine is used for tests other than tensile tests. Depending on the arrangement of the grips or jigs, the test piece will be in tension, shear, compression or flexure.

3.3
elongation
increase in the gauge length of a tensile test piece when subjected to a tensile force

3.4
deflection
distortion, in the direction of the applied force, of a test piece in compression, shear or flexure