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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

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5893 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analyses*.

This third edition cancels and replaces the second edition (ISO 5893:1993), which has been technically revised. The modifications mainly concern the steady-state machine accuracy.

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

## 1 Scope

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

## 2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7500-1:—<sup>1)</sup>, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

## 3 Terms and definitions

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

### 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** The movable member is power-driven and may be equipped with adjustable speed control. The machine has a force-measuring system complete with indicator and/or recorder. In addition, a system may 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** 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 of 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

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1) To be published. (Revision of ISO 7500-1:1999)