
**Metallic materials — Calibration of
force-proving instruments used for the
verification of uniaxial testing machines**

*Matériaux métalliques — Étalonnage des instruments de mesure de
force utilisés pour la vérification des machines d'essais uniaxiaux*



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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 2.

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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 376 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 1, *Uniaxial testing*.

This third edition cancels and replaces the second edition (ISO 376:1999), which has been technically revised.

Introduction

No information is currently provided in this International Standard for determining the uncertainty of a force-proving device or its indicator. An ISO/TC 164/SC 1 working group is currently developing procedures for determining the measurement uncertainty of force-proving devices. Until such information is provided in this International Standard, procedures for determining the measurement uncertainty of force-proving devices can be found in the two first documents listed in the Bibliography.

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Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines

1 Scope

This International Standard covers the calibration of force-proving instruments used for the static verification of uniaxial testing machines (e.g. tension/compression testing machines) and describes a procedure for classifying these instruments.

This International Standard generally applies to force-proving instruments in which the force is determined by measuring the elastic deformation of a loaded member or a quantity which is proportional to it.

2 Normative references

The following referenced documents are indispensable for the application 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/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms and definitions

For the purposes of this document, the following term and definition apply.

3.1

force-proving instrument

whole assembly from the force transducer through to, and including, the indicator

4 Symbols and their designations

Symbols and their designations are given in Table 1.