



NSAI
Standards

Irish Standard
I.S. EN ISO 7500-1:2015

Metallic materials - Calibration and verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Calibration and verification of the force-measuring system (ISO 7500-1:2015)

I.S. EN ISO 7500-1:2015

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National Foreword

I.S. EN ISO 7500-1:2015 is the adopted Irish version of the European Document EN ISO 7500-1:2015, Metallic materials - Calibration and verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Calibration and verification of the force-measuring system (ISO 7500-1:2015)

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EUROPEAN STANDARD

EN ISO 7500-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN ISO 7500-1:2004

English Version

Metallic materials - Calibration and verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Calibration and verification of the force-measuring system (ISO 7500-1:2015)

Matériaux métalliques - Étalonnage et vérification des machines pour essais statiques uniaxiaux - Partie 1: Machines d'essai de traction/compression - Étalonnage et vérification du système de mesure de force (ISO 7500-1:2015)

Metallische Werkstoffe - Kalibrierung und Überprüfung von statischen einachsigen Prüfmaschinen - Teil 1: Zug- und Druckprüfmaschinen - Kalibrierung und Überprüfung der Kraftmesseinrichtung (ISO 7500-1:2015)

This European Standard was approved by CEN on 21 November 2015.

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EN ISO 7500-1:2015 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 7500-1:2015) has been prepared by Technical Committee ISO/TC 164 "Mechanical testing of metals" in collaboration with Technical Committee ECISS/TC 101 "Test methods for steel (other than chemical analysis)" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 7500-1:2004.

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Endorsement notice

The text of ISO 7500-1:2015 has been approved by CEN as EN ISO 7500-1:2015 without any modification.

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INTERNATIONAL
STANDARD

ISO
7500-1

Fourth edition
2015-12-15

**Metallic materials — Calibration and
verification of static uniaxial testing
machines —**

Part 1:
**Tension/compression testing machines
— Calibration and verification of the
force-measuring system**

*Matériaux métalliques — Étalonnage et vérification des machines
pour essais statiques uniaxiaux —*

*Partie 1: Machines d'essai de traction/compression — Étalonnage et
vérification du système de mesure de force*



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and their meanings	2
5 General inspection of the testing machine	3
6 Calibration of the force-measuring system of the testing machine	3
6.1 General.....	3
6.2 Determination of the resolution.....	4
6.2.1 Analogue scale.....	4
6.2.2 Digital scale.....	4
6.2.3 Variation of readings.....	4
6.2.4 Unit.....	5
6.3 Prior determination of the relative resolution of the force indicator.....	5
6.4 Calibration procedure.....	5
6.4.1 Alignment of the force-proving instrument.....	5
6.4.2 Temperature compensation.....	5
6.4.3 Conditioning of the testing machine and force-proving instrument.....	5
6.4.4 Procedure.....	5
6.4.5 Application of discrete forces.....	6
6.4.6 Verification of accessories.....	6
6.4.7 Verification of the effect of differences in piston positions.....	7
6.4.8 Determination of relative reversibility error.....	7
6.5 Assessment of the force indicator.....	8
6.5.1 Relative indication error.....	8
6.5.2 Relative repeatability error.....	9
6.5.3 Agreement between two force-proving instruments.....	9
7 Class of testing machine range	9
8 Verification report	10
8.1 General.....	10
8.2 General information.....	10
8.3 Results of verification.....	10
9 Intervals between verifications	11
Annex A (normative) General inspection of the testing machine	12
Annex B (informative) Inspection of the loading platens of the compression testing machines	13
Annex C (informative) Uncertainty of the calibration results of the force-measuring system	14
Bibliography	18

ISO 7500-1:2015(E)

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.

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 1, *Uniaxial testing*.

This fourth edition cancels and replaces the third edition (ISO 7500-1:2004) which has been technically revised.

ISO 7500 consists of the following parts, under the general title *Metallic materials — Calibration and verification of static uniaxial testing machines*:

- *Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*
- *Part 2: Tension creep testing machines — Verification of the applied force*

Metallic materials — Calibration and verification of static uniaxial testing machines —

Part 1:

Tension/compression testing machines — Calibration and verification of the force-measuring system

1 Scope

This part of ISO 7500 specifies the calibration and verification of tension/compression testing machines.

The verification consists of:

- a general inspection of the testing machine, including its accessories for the force application;
- a calibration of the force-measuring system of the testing machine;
- a confirmation that the performance properties of the testing machine achieve the limits given for a specified class.

NOTE This part of ISO 7500 addresses the static calibration and verification of the force-measuring systems. The calibration values are not necessarily valid for high-speed or dynamic testing applications. Further information regarding dynamic effects is given in the Bibliography.

CAUTION — Some of the tests specified in this part of ISO 7500 involve the use of processes which could lead to a hazardous situation.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 376, *Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines*

3 Terms and definitions

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

3.1

calibration

operation that establishes the relationship between the force values (with associated uncertainties) indicated by the testing machine and those measured by one or more force-proving instruments

3.2

verification

confirmation, based on analysis of measurements in accordance with this standard, that the performance properties of the testing machine achieve the limits given for a specified class

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