

METALLMATERJALID. TÕMBETEIM. OSA 2:
TEIMIMEETOD KÕRGENDATUD TEMPERATUURIL (ISO
6892-2:2011)

Metallic materials - Tensile testing - Part 2: Method of
test at elevated temperature (ISO 6892-2:2011)

EESTI STANDARDI EESSÕNA

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Méthode d'essai à température élevée (ISO 6892-2:2011)

Metallische Werkstoffe - Zugversuch - Teil 2: Prüfverfahren
bei erhöhter Temperatur (ISO 6892-2:2011)

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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 6892-2:2011) 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of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

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Endorsement notice

The text of ISO 6892-2:2011 has been approved by CEN as a EN ISO 6892-2:2011 without any modification.

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Introduction

In this part of ISO 6892, two methods of testing speeds are described. The first, Method A, is based on strain rates (including crosshead separation rate) with narrow tolerances ($\pm 20\%$) and the second, Method B, is based on conventional strain rate ranges and tolerances. Method A is intended to minimize the variation of the test rates during the moment when strain rate sensitive parameters are determined and to minimize the measurement uncertainty of the test results.

The influence of the testing speed on the mechanical properties, determined by the tensile test, is normally greater at an elevated temperature than at room temperature.

Traditionally, mechanical properties determined by tensile tests at elevated temperatures have been determined at a slower strain or stressing rate than at room temperature. This part of ISO 6892 recommends the use of slow strain rates but, in addition, higher strain rates are permitted for particular applications, such as comparison with room temperature properties at the same strain rate.

During discussions concerning the speed of testing in the preparation of this part of ISO 6892, it was decided to consider deleting the stress rate method in future revisions.

Metallic materials — Tensile testing —

Part 2:

Method of test at elevated temperature

WARNING — This International Standard calls for the use of substances and/or procedures that may be injurious to health if adequate safety measures are not taken. This International Standard does not address any health hazards, safety or environmental matters associated with its use. It is the responsibility of the user of this International Standard to establish appropriate health, safety and environmentally acceptable practices and take suitable actions for any national and international regulations. Compliance with this International Standard does not in itself confer immunity from legal obligations.

1 Scope

This part of ISO 6892 specifies a method of tensile testing of metallic materials at temperatures higher than room temperature.

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 6892-1:2009, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

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

ISO 9513, *Metallic materials — Calibration of extensometers used in uniaxial testing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6892-1:2009 apply with the following exceptions and supplements.

In general, all test piece geometries/dimensions are based on measurements taken at room temperature. The exception may be the extensometer gauge length (see 3.3 and 10.2.2).

NOTE The following properties are generally not determined at elevated temperature unless required by relevant specifications or agreement:

- permanent set strength (R_r);
- percentage permanent elongation;
- percentage permanent extension;
- percentage yield point extension (A_e);