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BSI Standards Publication

Metallic materials — Tensile testing at high strain rates

Part 2: Servo-hydraulic and other test systems (ISO 26203-2:2011)

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National foreword

This British Standard is the UK implementation of EN ISO 26203-2:2011.

The UK participation in its preparation was entrusted by Technical Committee ISE/101, Test methods for metals, to subcommittee ISE/101/1, Uniaxial testing.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Date	Text affected
30 September 2015	Implementation of ISO corrected text 15 March 2012: See ISO Foreword for details

English Version

**Metallic materials - Tensile testing at high strain rates - Part 2:
Servo-hydraulic and other test systems (ISO 26203-2:2011)**

Matériaux métalliques - Essai de traction à vitesses de déformation élevées - Partie 2: Systèmes d'essai servo-hydrauliques et autres systèmes d'essai (ISO 26203-2:2011)

Metallische Werkstoffe - Zugversuch bei hohen Dehngeschwindigkeiten - Teil 2: Servohydraulische und andere Systeme (ISO 26203-2:2011)

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Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 26203-2:2011) 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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Endorsement notice

The text of ISO 26203-2:2011 has been approved by CEN as a EN ISO 26203-2:2011 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	1
5 Principle	3
6 Apparatus	3
7 Test pieces	3
7.1 Test piece geometry	3
7.2 Preparation of test pieces	4
8 Procedure and measurements	5
8.1 Velocity selection	5
8.2 Force measurement	5
8.3 Extension measurement	6
8.4 Data acquisition	6
9 Evaluation of tests	6
9.1 Stress-strain curve	6
9.2 Determination of key values	7
9.3 Strain rates	7
9.4 Determination of flow curves	8
10 Test report	9
Annex A (informative) Testing equipment	10
Annex B (informative) Examples of test piece geometries	12
Annex C (informative) Example of an engineering stress-strain curve	14
Bibliography	15

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.

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ISO 26203-2 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 1, *Uniaxial testing*.

ISO 26203 consists of the following parts, under the general title *Metallic materials — Tensile testing at high strain rates*:

- *Part 1: Elastic-bar-type systems*
- *Part 2: Servo-hydraulic and other test systems*

This corrected version of ISO 26203-2:2011 incorporates the following correction:

- Figure A.2 a) The figure missing above Example 1 has been added.

Introduction

The deformation behaviour of many technical materials shows a positive strain-rate effect up to ductile failure, i.e. with increasing strain rate, an increase of yield stress and strain to failure can be observed. This information is of great importance for the reliable assessment of crashworthiness of automobile structures, which is increasingly determined by numerical methods to minimize the need for cost-intensive and time-consuming crash tests. For the numerical simulation of crash-type loads, stress-strain curves determined at higher strain rates are required. The quasi-static values determined according to ISO 6892-1, i.e. strain rates lower than or equal to $0,008 \text{ s}^{-1}$, are not suitable for the description of the behaviour of the material of a component under dynamic load, i.e. at strain rates higher than those in quasi-static tests.

