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Standards

Irish Standard
I.S. EN ISO 26203-2:2011

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

I.S. EN ISO 26203-2:2011

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document replaces:

This document is based on:
EN ISO 26203-2:2011

Published:
31 October, 2011

This document was published under the authority of the NSAI and comes into effect on:
31 October, 2011

ICS number:

77.040.10

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Údarás um Chaighdeáin Náisiúnta na hÉireann

ICS 77.040.10

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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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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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I.S. EN ISO 26203-2:2011
**INTERNATIONAL
STANDARD**

**ISO
26203-2**

First edition
2011-10-15

**Metallic materials — Tensile testing at
high strain rates —**

Part 2:
Servo-hydraulic and other test systems

*Matériaux métalliques — Essai de traction à vitesses de déformation
élevées — Partie 2: Systèmes d'essai servo-hydrauliques et autres
systèmes d'essai*



Reference number
ISO 26203-2:2011(E)

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Published in Switzerland

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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.

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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.

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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*

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.

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