

**Metallic materials - Sheet and strip - Determination of
tensile strain hardening exponent (ISO 10275:2007)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10275:2014 sisaldab Euroopa standardi EN ISO 10275:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 10275:2014 consists of the English text of the European standard EN ISO 10275:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.06.2014.	Date of Availability of the European standard is 11.06.2014.
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ICS 77.040.10

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English Version

Metallic materials - Sheet and strip - Determination of tensile strain hardening exponent (ISO 10275:2007)

Matériaux métalliques - Tôles et bandes - Détermination du coefficient d'écrouissage en traction (ISO 10275:2007)

Metallische Werkstoffe - Blech und Band - Bestimmung des Verfestigungsexponenten im Zugversuch (ISO 10275:2007)

This European Standard was approved by CEN on 6 June 2014.

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Foreword

The text of ISO 10275:2007 has been prepared by Technical Committee ISO/TC 164 "Mechanical testing of metals" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10275:2014 by 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of an identical text or by endorsement, at the latest by December 2014, and conflicting national standards shall be withdrawn at the latest by December 2014.

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Endorsement notice

The text of ISO 10275:2007 has been approved by CEN as EN ISO 10275:2014 without any modification.

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Introduction

In the former version of this International Standard, for the calculation of the true strain, the elastic strain did not need to be subtracted from the total strain if it was lower than 10 % of the total strain.

In this new International Standard, the elastic strain is subtracted from the total strain for calculation of the true strain, which is now referred to as “true plastic strain”.

Metallic materials — Sheet and strip — Determination of tensile strain hardening exponent

1 Scope

This International Standard specifies a method for determining the tensile strain hardening exponent n of flat products (sheet and strip) made of metallic materials.

The method is valid only for that part of the stress-strain curve in the plastic range where the curve is continuous and monotonic (see 7.4).

In the case of materials with a serrated stress-strain curve in the work hardening range (materials which show the Portevin-Le Chatelier effect, e.g. AlMg-alloys) the automatic determination (linear regression of the logarithm true stress vs. the logarithm true plastic strain, see 7.7) should be used to give reproducible results.

2 Normative references

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

ISO 6892:1998, *Metallic materials — Tensile testing at ambient temperature*

ISO 7500-1:2004, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 9513:1999, *Metallic materials — Calibration of extensometers used in uniaxial testing*

ISO 10113, *Metallic materials — Sheet and strip — Determination of plastic strain ratio*

3 Symbols and designations

The symbols and corresponding designations used in determining the tensile strain hardening exponent are given in Table 1.