

Metalliske materialer
Strekprøving
Del 1: Prøvningsmetode ved
omgivelsestemperatur

Metallic materials
Tensile testing
Part 1: Method of test at ambient temperature

Nasjonalt forord

Den engelskspråklige versjonen av europeisk standard EN 10002-1:2001 er fastsatt som Norsk Standard NS-EN 10002-1:2001.

Denne standarden erstatter NS-EN 10002-1:1990.

National foreword

The English language version of European Standard EN 10002-1:2001 has been adopted as Norwegian Standard NS-EN 10002-1:2001.

This standard supersedes NS-EN 10002-1:1990.

English version

Metallic materials - Tensile testing - Part 1: Method of test at ambient temperature

Matériaux métalliques - Essai de traction - Partie 1:
Méthode d'essai à température ambiante

Metallische Werkstoffe - Zugversuch - Teil 1: Prüfverfahren
bei Raumtemperatur

This European Standard was approved by CEN on 12 May 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	4
1 Scope	5
2 Normative references	5
3 Principle	5
4 Definitions.....	5
5 Symbols and designations	8
6 Test piece.....	10
6.1 Shape and dimensions.....	10
6.2 Types.....	11
6.3 Preparation of test pieces	11
7 Determination of original cross-sectional area (S_0).....	11
8 Marking the original gauge length (L_0).....	12
9 Accuracy of testing apparatus	12
10 Conditions of testing	12
10.1 Method of gripping	12
10.2 Test rate	12
11 Determination of percentage elongation after fracture (A)	13
12 Determination of the percentage total elongation at maximum force (A_{gt}).....	14
13 Determination of proof strength, non proportional extension (R_p).....	14
14 Determination of proof strength, total extension (R_t)	15
15 Method of verification of permanent set strength (R_r).....	15
16 Determination of percentage reduction of area (Z)	15
17 Test report	15
Annex A (informative) Recommendations concerning the use of computer controlled tensile testing machines.....	28
Annex B (normative) Types of test pieces to be used for thin products : sheets, strips and flats between 0,1 mm and 3 mm thick.....	33
Annex C (normative) Types of test pieces to be used for wire, bars and sections with a diameter or thickness of less than 4 mm	35
Annex D (normative) Types of test pieces to be used for sheets and flats of thickness equal to or greater than 3 mm, and wire, bars and sections of diameter or thickness equal to or greater than 4 mm	36

Annex E (normative) Types of test pieces to be used for tubes	39
Annex F (informative) Measuring the percentage elongation after fracture if the specified value is less than 5 %	41
Annex G (informative) Measurement of percentage elongation after fracture based on subdivision of the original gauge length	42
Annex H (informative) Manual method of determination of the percentage total elongation at maximum force for long products such as bars, wire, rods	44
Annex J (informative) Precision of tensile testing and estimation of the uncertainty of measurement	45
Bibliography	56