

**Surveotstarbelised õmblusteta
terastorud. Tehnilised
tarnetingimused. Osa 2: Süsinik- ja
legeerterasest kõrgendatud
temperatuuriomadustega torud
KONSOLIDEERITUD TEKST**

Seamless steel tubes for pressure purposes -
Technical delivery conditions - Part 2: Non-alloy and
alloy steel tubes with specified elevated temperature
properties CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 10216-2:2002+A2:2007 sisaldab Euroopa standardi EN 10216-2:2002+A2:2007 ingliskeelset teksti. Käesolev dokument on jõustatud 30.10.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 10216-2:2002+A2:2007 consists of the English text of the European standard EN 10216-2:2002+A2:2007. This document is endorsed on 30.10.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This Part of EN 10216 specifies the technical delivery conditions in two test categories for seamless tubes of circular cross section, with specified elevated temperature properties, made of non-alloy and alloy steel.	Scope: This Part of EN 10216 specifies the technical delivery conditions in two test categories for seamless tubes of circular cross section, with specified elevated temperature properties, made of non-alloy and alloy steel.
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ICS 23.040.10, 77.140.75

Võtmesõnad: analysis, measurement, orders : sales documents, pipes : tubes, seamless tubes, specifications, tabl, temperature, temperature behaviour, test methods, test results, testing, tightness, tolerances, tolerances (measurement), unalloyed steels, weight : mass, weights

English Version

Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties

Tubes sans soudure en acier pour service sous pression -
Conditions techniques de livraison - Partie 2: Tubes en
acier non allié et allié avec caractéristiques spécifiées à
température élevée

Nahtlose Stahlrohre für Druckbeanspruchungen -
Technische Lieferbedingungen - Teil 2: Rohre aus
unlegierten und legierten Stählen mit festgelegten
Eigenschaften bei erhöhten Temperaturen

This European Standard was approved by CEN on 25 April 2002 and includes Amendment 1 approved by CEN on 2 January 2004 and Amendment 2 approved by CEN on 30 June 2007.

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 CEN 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This document (EN 10216-2:2002+A2:2007) has been prepared by Technical Committee ECISS/TC 29, "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

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 February 2008 and conflicting national standards shall be withdrawn at the latest by February 2008.

This document includes Amendment 1, approved by CEN on 2004-01-02 and Amendment 2, approved by CEN on 2007-06-30.

This document supersedes EN 10216-2:2002.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A2**.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Other Parts of EN 10216 are:

- Part 1 : Non-alloy steel tubes with specified room temperature properties.
- Part 3 : Alloy fine grain steel tubes
- Part 4 : Non-alloy and alloy steel tubes with specified low temperature properties
- Part 5 : Stainless steel tubes

Another European Standard series covering tubes for pressure purposes is:

EN 10217: Welded steel tubes for pressure purposes

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 SCOPE

This Part of EN 10216 specifies the technical delivery conditions in two test categories for seamless tubes of circular cross section, with specified elevated temperature properties, made of non-alloy and alloy steel.

NOTE This Part of EN 10216 may also be applied for tubes of non-circular cross section; necessary modification should be agreed ^{A2} at ^{A2} the time of enquiry and order.

2 NORMATIVE REFERENCES

This European Standard incorporates by date or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For date references, subsequent amendments to or revisions of, any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

The requirements of this European Standard rule when they differ from those in the standards and documents referred to below:

EN 10002-1, *Metallic materials - Tensile testing - Part 1: Method of test (at ambient temperature)*

EN 10002-5, *Metallic materials - Tensile testing - Part 5: Method of testing (at elevated temperature)*

EN 10020, *Definitions and classification of grades of steel*

EN 10021, *General technical delivery requirements for steel and iron products*

EN 10027-1, *Designation systems for steels - Part 1: Steel names, principle symbols*

EN 10027-2, *Designation systems for steels - Part 2: Numerical systems*

EN 10045-1, *Metallic materials - Charpy impact test - Part 1: Test method*

EN 10052, *Vocabulary of heat treatment terms for ferrous products*

EN 10204, *Metallic products - Types of inspection documents*

^{A2} EN 10220 ^{A2}, *Seamless and welded steel tubes - Dimensions and masses per unit length*

EN 10233, *Metallic materials - Tubes - Flattening test*

EN 10234, *Metallic materials - Tubes - Drift expanding test*

EN 10236, *Metallic materials - Tubes - Ring expanding test*

EN 10237, *Metallic materials - Tubes - Ring tensile test*

EN 10246-1, *Non-Destructive Testing of steel tubes - Part 1: Automatic electromagnetic testing of seamless and welded (except submerged arc welded) ferromagnetic steel tubes for verification of hydraulic leak-tightness*

EN 10246-5, *Non-Destructive Testing of steel tubes - Part 5: Automatic full peripheral magnetic transducer/flux leakage testing of seamless and welded (except submerged arc-welded) ferromagnetic steel tubes for the detection of longitudinal imperfections*

EN 10246-6, *Non-Destructive Testing of steel tubes - Part 6: Automatic full peripheral ultrasonic testing of seamless steel tubes for the detection of transverse imperfections*

EN 10246-7, *Non-Destructive Testing of steel tubes - Part 7: Automatic full peripheral ultrasonic testing of seamless and welded (except submerged arc welded) steel tubes for the detection of longitudinal imperfections*

EN 10246-14, *Non-Destructive Testing of steel tubes - Part 14: Automatic ultrasonic testing of seamless and welded (except submerged arc welded) steel tubes for the detection of laminar imperfections*

EN 10256, *Non-Destructive Testing of steel tubes - Qualification and competence of level 1 and level 2 NDT personnel*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377:1997)*

EN 10168, *Iron and steel products - Inspection documents - List of information and description*

EN 10266, *Steel tubes, fittings and structural hollow sections - Symbols and definition of terms for use in product standards*

EN ISO 2566-1, *Steel - Conversion of elongation values - Part 1: Carbon and low-alloy steels (ISO 2566-1:1984)*

ISO 14284, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition*

CR 10260, *Designation systems for steel - Additional symbols*

CR 10261, *ECISS Information Circular IC 11 - Iron and steel - Review of available methods of chemical analysis*

3 TERMS AND DEFINITIONS

For the purposes of this Part of EN 10216, the terms and definitions given in EN 10020, EN 10021, EN 10052 and EN 10266 and the following apply.

3.1

test category

classification that indicates the extent and level of inspection and testing

3.2

employer

organisation for which a person works on a regular basis.

NOTE The employer may be either the tube manufacturer or supplier or a third party organisation providing, Non-Destructive Testing (NDT) services.

4 SYMBOLS

For the purpose of this Part of EN 10216, the symbols given in EN 10266 and the following apply:

- d specified inside diameter;
- $d_{\min}$ specified minimum inside diameter;
- $T_{\min}$ specified minimum wall thickness;
- D_c calculated outside diameter;
- d_c calculated inside diameter;
- T_c calculated wall thickness;
- TC test category