

**Surveotstarbelised keevitatud
terastorud. Tehnilised tannetingimused.
Osa 4: Kindlaksmääratud
madalatemperatuuriliste omadustega
elekterkeevitusega süsinikterasest
torud**

Welded steel tubes for pressure purposes -
Technical delivery conditions - Part 4: Electric
welded non-alloy steel tubes with specified low
temperature properties

EESTI STANDARDI EESSÖNA**NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 10217-4:2002 sisaldb Euroopa standardi EN 10217-4:2002 ingliskeelset teksti.	This Estonian standard EVS-EN 10217-4:2002 consists of the English text of the European standard EN 10217-4:2002.
Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

Käsitlusala: This Part of EN 10217 specifies the technical delivery conditions in two test categories of electric welded tubes of circular cross section, with specified low temperature properties, made of non-alloy steel.	Scope: This Part of EN 10217 specifies the technical delivery conditions in two test categories of electric welded tubes of circular cross section, with specified low temperature properties, made of non-alloy steel.
---	---

ICS 23.040.10, 77.140.75

Võtmesõnad: acceptance, analysis, area, chemical analysis and testin, measurement, orders : sales documents, pipes : tubes, sampling, specifications, tolerances, tolerances (measurement), unalloyed steels, weight : mass, weights, weldability, weldable, welded tubes, welding

Hinnagrupp N

EUROPEAN STANDARD

EN 10217-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2002

ICS 23.040.10; 77.140.75

English version

Welded steel tubes for pressure purposes - Technical delivery conditions - Part 4: Electric welded non-alloy steel tubes with specified low temperature properties

Tubes soudés en acier pour service sous pression -
Conditions techniques de livraison - Partie 4: Tubes soudés
électriquement en acier non allié avec caractéristiques
spécifiées à basse température

Geschweißte Stahlrohre für Druckbeanspruchungen -
Technische Lieferbedingungen - Teil 4: Elektrisch
geschweißte Rohre aus unlegierten Stählen mit
festgelegten Eigenschaften bei tiefen Temperaturen

This European Standard was approved by CEN on 25 April 2002.

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, Malta, 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

Foreword	3
1 SCOPE	4
2 NORMATIVE REFERENCES	4
3 Definitions	5
4 Symbols	5
5 CLASSIFICATION AND DESIGNATION	6
5.1 Classification	6
5.2 Designation	6
6 Information to be supplied by the purchaser	6
6.1 Mandatory information	6
6.2 Options	6
6.3 Example of an order	7
7 Manufacturing process	7
7.1 Steelmaking process	7
7.2 Deoxidation process	7
7.3 Tube manufacture and delivery conditions	7
8 REQUIREMENTS	8
8.1 General	8
8.2 Chemical composition	9
8.3 Mechanical properties	9
8.4 Appearance and internal soundness	12
8.5 Straightness	13
8.6 Preparation of ends	13
8.7 Dimensions, masses and tolerances	13
9 Inspection	18
9.1 Types of inspection	18
9.2 Inspection documents	18
9.3 Summary of inspection and testing	18
10 Sampling	20
10.1 Frequency of tests	20
10.2 Preparation of samples and test pieces	20
11 Test methods	22
11.1 Chemical analysis	22
11.2 Tensile test on the base material	22
11.3 Transverse tensile test on the weld	22
11.4 Flattening test	22
11.5 Ring tensile test	22
11.6 Drift expanding test	23
11.7 Ring expanding test	23
11.8 Impact test	23
11.9 Leak tightness test	24
11.10 Dimensional inspection	24
11.11 Visual examination	25
11.12 Non-Destructive Testing	25
11.13 Retests, sorting and reprocessing	25
12 Marking	25
12.1 Marking to be applied	25
12.2 Additional marking	26
13 protection	26
Annex ZA (informative)	27
Bibliography	28

Foreword

This document (EN 10217-4:2002) 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 November 2002, and conflicting national standards shall be withdrawn at the latest by November 2002.

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 10217 are:

- Part 1: Non-alloy steel tubes with specified room temperature properties.
- Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties.
- Part 3: Alloy fine grain steel tubes.
- Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties.
- Part 6: Submerged arc welded non-alloy steel tubes with specified low temperature properties.
- Part 7: Stainless steel tubes.

Another European Standard series covering tubes for pressure purposes is:

EN 10216: Seamless 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This Part of EN 10217 specifies the technical delivery conditions in two test categories of electric welded tubes of circular cross section, with specified low temperature properties, made of non-alloy steel.

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 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*

prEN 10168¹⁾, *Iron and steel products - Inspection documents - List of information and description*

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

ENV 10220, *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 10246-3, *Non-Destructive Testing of steel tubes - Part 3 :Automatic eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections*

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 10246-8, *Non-Destructive Testing of steel tubes – Part 8: Automatic ultrasonic testing of the weld seam of electric welded tubes for the detection of longitudinal imperfections*

EN 10246-14, *Non-Destructive Testing of steel tubes - Part 7 : 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*

prEN 10266¹⁾, *Steel tubes, fittings and structural hollow sections - Symbols and definition of terms for use in product standards*

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.*

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

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*

3 Terms and definitions

For the purposes of this Part of EN 10217, the terms and definitions given in EN 10020, EN 10021, EN 10052, prEN 10266 and the followings 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 purposes of this Part of EN 10217, the symbols given in prEN 10266 and the following apply:

- C1, C2 category conformity indicators (see 7.3.1 and 7.3.3.)
- TC test category.

1) In preparation; until this document is published as a European standard, a corresponding national standard should be agreed at the time of enquiry and order.