

**Surveotstarbelised keevitatud
terastorud. Tehnilised tarnetingimused.
Osa 5: Kindlaks määratud
madalatemperatuuriliste omadustega
metallkaarkeevitusega süsinik- ja
sulamterasest torud**

Welded steel tubes for pressure purposes -
Technical delivery conditions - Part 6: Submerged
arc welded non-alloy steel tubes with specified low
temperature properties

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 10217-6:2002 sisaldab Euroopa standardi EN 10217-6:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 10217-6:2002 consists of the English text of the European standard EN 10217-6:2002. This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
--	---

Käsitlusala: This Part of EN 10217 specifies the technical delivery conditions in two test categories of submerged arc 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 submerged arc 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 P

ICS 23.040.10; 77.140.75

English version

Welded steel tubes for pressure purposes - Technical delivery conditions - Part 6: Submerged arc welded non-alloy steel tubes with specified low temperature properties

Tubes soudés en acier pour service sous pression -
Conditions techniques de livraison - Partie 6: Tubes soudés
à l'arc immergé sous flux en poudre en acier non allié avec
caractéristiques spécifiées à basse température

Geschweißte Stahlrohre für Druckbeanspruchungen -
Technische Lieferbedingungen - Teil 6:
Unterpulvergeschweißte 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 Terms and 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	9
8.1 General	9
8.2 Chemical composition	9
8.3 Mechanical properties	11
8.4 Appearance and internal soundness	11
8.5 Straightness	12
8.6 Preparation of ends	12
8.7 Dimensions, masses and tolerances	13
9 Inspection	16
9.1 Types of inspection	16
9.2 Inspection documents	16
9.3 Summary of inspection and testing	17
10 Sampling	18
10.1 Frequency of tests	18
10.2 Preparation of samples and test pieces	18
11 Test methods	20
11.1 Chemical analysis	20
11.2 Tensile test on the base material	20
11.3 Transverse tensile test on the weld	20
11.4 Weld bend test	20
11.5 Impact test	20
11.6 Hydrostatic leak tightness test	21
11.7 Dimensional inspection	21
11.8 Visual examination	21
11.9 Non-Destructive Testing	22
11.10 Retests, sorting and reprocessing	22
12 Marking	22
12.1 Marking to be applied	22
12.2 Additional marking	23
13 Protection	23
Annex A (normative)	24
Annex ZA (informative)	31
Bibliography	32

Foreword

This document (EN 10217-6:2002) 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 4: Electric welded non-alloy steel tubes with specified low temperature properties.
- Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated 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 submerged arc 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 760, *Welding consumables - Fluxes for submerged arc welding – Classification.*

EN 895, *Destructive tests on welds in metallic materials - Transverse tensile test.*

EN 910, *Destructive tests on weld in metallic materials -Bend test.*

EN 1321, *Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds.*

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.*

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

ENV 10220, *Seamless and welded steel tubes - Dimensions and masses per unit length.*

EN 10246-9, *Non-Destructive Testing of steel tubes – Part 9: Automatic ultrasonic testing of the weld seam of submerged arc-welded steel tubes for the detection of longitudinal and/or transverse imperfections.*

EN 10246-10, *Non-Destructive Testing of steel tubes – Part.10: Radiographic testing of the weld seam of automatic fusion arc-welded steel tubes for the detection of imperfections.*

EN 10246-15, *Non-Destructive Testing of steel tubes - Part 15: Automatic ultrasonic testing of strip/ plate used in the manufacture of welded steel tubes for the detection of laminar imperfections.*

EN 10246-16, *Non-Destructive Testing of steel tubes - Part 16: Automatic ultrasonic testing of the area adjacent to the weld seam of welded steel tubes for the detection of laminar imperfections.*

EN 10246-17, *Non-Destructive Testing of steel tubes - Part 17: Ultrasonic testing of tube ends of seamless and 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 10168 ¹⁾, *Iron and steel products - Inspection documents - List of information and description.*

prEN 10266 ¹⁾, *Steel tubes, fittings and structural hollow sections - Symbols and definition of terms for use in product standards*

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, *Iron and steel products - Sampling and preparation of samples for the determination of the 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 purpose of this Part of EN 10217 the 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.

3.3

qualification of welding procedure

Testing and inspection of the welding procedure in accordance with annex A by the manufacturer.

3.4

approval of welding procedure

Testing and inspection of the welding procedure witnessed and approved in accordance with annex A by an authorised body.

4 Symbols

For the purposes of this part of EN 10217. The symbols given in prEN 10266 and the following apply:

- C1, C2 is the 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.