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VETTSISALDAVATE VEDELIKE EDASTAMISEKS,
SEALHULGAS INIMESTELE TARBIMISEKS MÕELDUD
VESI. TEHNILISED TARNETINGIMUSED

Non-alloy steel tubes and fittings for the conveyance of
aqueous liquids including water for human
consumption - Technical delivery conditions

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 10224:2003 sisaldab Euroopa standardi EN 10224:2002 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.12.2002.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 10224:2003 consists of the English text of the European standard EN 10224:2002.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 04.12.2002.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English version

Non-alloy steel tubes and fittings for the conveyance of aqueous liquids including water for human consumption - Technical delivery conditions

Tubes et raccords en acier non allié pour le transport de liquides aqueux, incluant l'eau destinée à la consommation
- Conditions techniques de livraison

Rohre und Fittings aus unlegierten Stählen für den Transport wässriger Flüssigkeiten einschließlich Trinkwasser - Technische Lieferbedingungen

This European Standard was approved by CEN on 19 August 2002.

CEN members are bound to comply with the CEN/GENELEC 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

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Foreword

This document EN 10224:2002 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 June 2003, and conflicting national standards shall be withdrawn at the latest by September 2004.

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.

Annexes A to D are informative.

This document includes a Bibliography.

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.

Introduction

This European Standard applies to tubular products for use with all types of aqueous liquids.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard:

- a) This standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

In addition to the requirements for the manufacture of tubes and fittings this European Standard contains requirements for the end preparation of tubes and fittings for butt welding and guidance is given in annex C on other types of jointing commonly used in piping systems for carrying aqueous liquids.

A range of commonly used coating and lining materials are identified in annex D of this standard for information. The purchaser may select a coating and/or lining material suitable for the application which should be applied in accordance with the appropriate standard. European Standards for coatings and linings for steel tubes are being prepared in CEN and are listed in a table in annex D.

1 Scope

1.1 This European Standard specifies requirements for the products listed below used for the conveyance of aqueous liquids, including water for human consumption:

- seamless and welded non-alloy steel tubes;
- end preparation of tube ends for butt welding;
- fittings fabricated from the tube;
- fittings fabricated from plate or strip.

NOTE This European Standard contains informative annexes giving guidance on tube sizes relevant to each manufacturing process covered, the relationship between nominal outside diameter (D) and nominal size (DN), on jointing other than butt welding, and on corrosion protection.

1.2 This European Standard covers a range of tube outside diameters from 26,9 mm to 2 743 mm.

2 Normative references

This European Standard incorporates by dated 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 dated 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).

EN 287-1, *Approval testing of welders - Fusion welding — Part 1: Steels*.

- EN 288-1, *Specification and qualification of welding procedures for metallic materials — Part 1: General rules for fusion welding.*
- EN 288-2, *Specification and approval of welding procedures for metallic materials — Part 2: Welding procedure specification for arc welding of steels.*
- EN 288-3, *Specification and approval of welding procedures for metallic materials — Part 3: Welding procedure tests for arc welding of steels.*
- EN 571-1, *Non Destructive Testing — Penetrant testing — Part 1: General principles.*
- EN 910, *Destructive tests on welds in metallic materials — Bend tests.*
- EN 1290, *Non-destructive examination of welds — Magnetic particle examination of welds.*
- EN 1435, *Non-destructive examination of welds — Radiographic examination of welded joints.*
- EN 1714, *Non-destructive examination of welds — Ultrasonic examination of welded joints.*
- EN 10002-1, *Metallic materials - Tensile testing — Part 1: Method of test at ambient temperature.*
- EN 10020, *Definition and classification of grades of steel.*
- EN 10021, *General technical delivery requirements for steel and iron products.*
- 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 10233, *Metallic materials — Tube — Flattening test.*
- EN 10234, *Metallic materials — Tube — Drift expanding 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 10246-7, *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 steel tubes for the detection of longitudinal imperfections.*
- 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 10246-17, *Non-destructive testing of steel tubes — Part 17: Ultrasonic testing of the 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 non-destructive testing personnel.*

prEN 10266¹⁾, *Steel tubes, fittings and structural hollow sections — Definitions and symbols for use in product standards.*

CR 10261, *Iron and steel — Review of available methods for chemical analysis.*

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

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).*

EN ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996).*

3 Terms, definitions and symbols

3.1 General

For the purposes of this European Standard the terms and definitions given in EN 10020, EN 10021, EN 10052 and prEN 10266 and the following apply.

The symbols used in this European Standard are defined in EN 10020, EN 10021, EN 10052 and prEN 10266.

Other symbols for sampling and testing are given in the appropriate sampling and testing standards referenced in clauses 9 and 10

3.2 effective length

actual length that a tube contributes when correctly assembled in a run of piping

3.3 allowable operating pressure (PFA)

maximum hydrostatic pressure that a component is capable of withstanding continuously in service

3.4 employer

organization for which a person works on a regular basis. The employer may be either the tube or fitting manufacturer or a third party organization providing non-destructive testing (NDT) services

4 Classification and designation

4.1 Classification

All steels covered by this European Standard are classified as non-alloy steels in accordance with EN 10020.

4.2 Designation

4.2.1 For products covered by this European Standard the steel designation consists of the number of this European Standard (EN 10224) and either the steel name in accordance with EN 10027-1 and CR 10260 or the steel number in accordance with EN 10027-2 (see Table 1).

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