

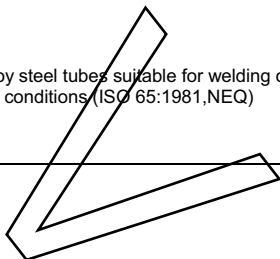
# norm

# NEN-EN 10255

Buizen van ongelegeerd staal geschikt voor lassen en draadsnijden - Technische leveringsvoorwaarden (ISO 65:1981,NEQ)

Publicatie uitsluitend voor commentaar

Non-alloy steel tubes suitable for welding or threading - Technical delivery conditions (ISO 65:1981,NEQ)



maart 2002

ICS 23.040.10; 77.140.75

Commentaar voor 2002-04-21

Vervangt NEN-EN 10255:1996 Ontw.

Als Europees normontwerp is gepubliceerd: prEN 10255:2002,IDT

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ICS

English version

**Non-alloy steel tubes suitable for welding or threading -  
Technical delivery conditions**

Tubes en acier non-allié filetables et soudables -  
Conditions techniques de livraison

Rohre aus unlegiertem Stahl mit Eignung zum Schweißen  
und Gewindeschneiden - Technische Lieferbedingungen

This draft European Standard is submitted to CEN members for second enquiry. It has been drawn up by the Technical Committee ECISS/TC 29.

If this draft becomes a European Standard, 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.

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## FOREWORD

This European Standard has been prepared by the Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

This European Standard has been derived, with modifications, from ISO 65 "Carbon steel tube suitable for screwing in accordance with ISO 7/1"

This document is currently submitted to the second CEN Enquiry.

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

## 1 SCOPE

This European Standard specifies the requirements for circular non-alloy steel tubes suitable for welding and threading and provides a number of options for the finish of tube ends and coatings. This European Standard covers tubes of 10,2 to 165,1 mm specified by outside diameter (thread size 1/8 to 6) in two series, medium and heavy, and three types (included ANNEX B) of designated thicknesses.

NOTE Tubes manufactured according to this European Standard can be used for the conveyance of fluids as well as other applications.

## 2 NORMATIVE REFERENCES

This European Standard incorporates by dated or undated references, 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.

EN ISO 1461, *Hot dip galvanized coatings on fabricated ferrous products - Specifications*

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 iron and steel products*

EN 10027-1, *Designation systems for steel - Part 1: Steel names principal symbols*

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

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

EN 10232, *Metallic materials - Tube (in full section) - Bend test*

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

EN 10240, *Internal and/or external protective coatings for steel tubes - Specification for hot dip galvanized coatings applied in automatic plants*

EN 10241, *Threaded steel fittings*

EN 10242, *Threaded pipe fittings in malleable cast iron*

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*

prEN 10226-1<sup>1)</sup>, *Pipe threads where pressure-tight joints are made on the threads - Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

prEN 10226-2<sup>1)</sup>, *Pipe threads where pressure-tight joints are made on the threads - Part 2: Taper external threads and taper internal threads - Dimensions, tolerances and designation*

prEN 10266<sup>1)</sup>, *Steel tubes, fitting and structural hollow sections - Symbols and definitions of terms - Symbols for use in product standards*

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

### **3 TERMS AND DEFINITIONS**

For the purpose of this European Standard, the following terms and definitions apply in addition to those in EN 10020, EN 10021 and prEN 10266.

#### **3.1 Series and Types**

A designation used in conjunction with the diameter to define the thickness and the mass per unit length of the tube.

#### **3.2 Bare tube**

A tube whose surface is as manufactured without subsequent coating.

### **4 CLASSIFICATION AND DESIGNATION**

The steel specified in this European Standard is classified as a non-alloy quality steel in accordance with EN 10020.

The steel name S195 has been established in accordance with EN 10027-1.

The steel number ... has been established in accordance with EN 10027-2.

### **5 INFORMATION TO BE SUPPLIED BY THE PURCHASER**

#### **5.1 Mandatory information**

The following information shall be supplied by the purchaser at the time of enquiry and order:

- a) Quantity (mass or total length or number of units);
- b) Seamless or Welded tube manufacturing process (S or W);
- c) The term "tube";

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1) in preparation; until this document is published as an European Standards, a corresponding National Standard should be agreed at the time of enquiry and order.

- d) The number of this European Standard (EN 10255);
- e) Specified outside diameter (D) in millimetres or thread size (R) (see table 2 or Annex B);
- f) Wall thickness (T) in millimetres or series (M or H) (see table 2) or types (L or L1 or L2)(see Annex B).

## 5.2 Options

A number of options are specified in this European Standard and these are listed below. In the event that the purchaser does not indicate a wish to implement any of these options at the time of enquiry and order, the tubes shall be supplied in accordance with the basic specification (see 5.1)

- 1) Threaded ends (see 7.2);
- 2) Socket type to be specified (see 7.2);
- 3) Closed ends to prevent ingress of foreign matter (see 7.2);
- 4) Thread varnish or thread protection (see 7.2);
- 5) Suitable for galvanizing to EN ISO 1461, or to EN 10240 coating quality other than A.1(see 7.3);
- 6) Suitable for galvanizing to EN 10240 coating quality A.1 (see 7.3);
- 7) Hot dip galvanized to EN ISO 1461 (see 7.4);
- 8) Hot dip galvanized to EN 10240, coating quality to be specified (see 7.4);
- 9) Delivery length (see 8.3);
- 10) Inspection document type 2.2 (see 9.2);
- 11) Temporary protective coating (see clause 11).

## 5.3 Examples of ordering

### 5.3.1 By outside diameter and thickness

To order 6000 metres of seamless tube with 26.9 mm outside diameter, 2.6 mm wall thickness, galvanized according to EN 10240 - coating quality A.1, threaded

EXAMPLE 6000 m - S tubes - 26,9 x 2,6 - EN 10255 - options 1 and 8 - A.1

### 5.3.2 By thread size and series

To order 80 tons of welded tubes with thread size 2, series medium, in standard length of 6.4 m with caps fitted.

EXEMPLE 80 t - W tubes - EN 10255 - 2 - M - option 3 and 9: 6,4 m

## 6 MANUFACTURING PROCESS

### 6.1 Steelmaking process

The steelmaking process is at the discretion of the manufacturer. The steel shall be fully killed.

### 6.2 Tube manufacturing process

The tubes shall be manufactured by a seamless (S) or longitudinally welded (W) process, as specified, and a heat treatment may be applied at the discretion of the manufacturer.

The tubes shall not include welds used for joining lengths of strip.

## 7 DELIVERY CONDITIONS

### 7.1 General

Unless otherwise specified (see 7.2 to 7.4) the tubes shall be supplied bare with plain ends. The tube ends shall be cut nominally square to the axis of the tube and shall be free from excessive burrs.

### 7.2 Alternative finishes and protection of the tubes ends

Alternative types of end finish may be obtained by selecting from the following options:

- Option 1: Tube ends shall be supplied with external taper threads in accordance with EN 10226-1 or EN 10226-2
- Option 2: One standard socket per tube shall be applied in accordance with EN 10241 or EN 10242; the type of socket shall be specified by the purchaser at the time of enquiry and order.

NOTE Purchasers who require threaded tubes with a standard socket should specify both options 1 and 2

Protection to prevent ingress of foreign matter or physical damage or rusting of the threads may be obtained by selecting from the following options:

- Option 3: One cap or plug fitted to each tube end to prevent ingress of foreign matter; the type is at the discretion of the manufacturer
- Option 4: The tube shall be supplied with the thread varnished or with thread protection

### 7.3 Suitability for hot dip galvanizing

- Option 5: The tubes shall be suitable for galvanizing to EN ISO 1461 or to EN 10240, coating quality A.2, A.3, B.1, B.2 or B.3
- Option 6: The tubes shall be suitable for galvanizing to EN 10240 coating quality A.1 (see 8.4.7)

### 7.4 Hot dip galvanized condition

- Option 7: The tubes shall be supplied galvanized according to EN ISO 1461
- Option 8: The tubes shall be supplied galvanized according to EN 10240; the coating quality shall be specified by the purchaser at the time of enquiry and order.

## 8 REQUIREMENTS

### 8.1 General

The tube when inspected in accordance with clause 9 shall conform to the requirements of this European Standard.

In addition to the requirements of this European Standard, the general technical delivery requirements specified in EN 10021 shall apply.

### 8.2 Chemical composition and mechanical properties

- 8.2.1 The chemical composition and the mechanical properties shall conform to the requirements of Table 1.



Table 1 — Chemical composition (cast analysis) and mechanical properties

Steel Grade		Chemical composition				Mechanical Properties		
		%				Yield strength	Tensile strength	Elongation on a gauge length $L_0 = 5,65\sqrt{S_0}$
Name	Number	C max	Mn max	P max	S max	$R_{eH}$ min. (MPa)	Rm (MPa)	A min. %
S 195		0,20	1,40	0,035	0,030	195	320 to 520	20

NOTE When subsequently welding tubes produced according to this European Standard account should be taken of the fact that the behaviour of the steel during and after welding is dependent not only on the steel but also on the conditions of preparing for and carrying out welding.

**8.2.2** Tubes shall be suitable for cold bending and threading.

NOTE When bending tubes produced in accordance with this European Standard, appropriate tooling should be correctly used.

### 8.3 Appearance

**8.3.1** The tubes shall be free from external and internal surface defects that can be detected by visual examination.

**8.3.2** The internal and external surface finish of the tubes shall be typical of the manufacturing process and, where applicable, the heat treatment employed. The finish and surface condition shall be such that any surface imperfections or marks requiring dressing can be identified.

**8.3.3** It shall be permissible to dress, by grinding or machining, surface imperfections provided that, after doing so, the tube thickness in the dressed area is not less than the specified minimum wall thickness. All dressed areas shall blend smoothly into the contour of the tube.

**8.3.4** Surface imperfections which encroach on the specified minimum wall thickness shall be considered defects and tubes containing these shall be deemed not to conform to this Part of this European Standard.

### 8.4 Dimensions, masses and tolerances

**8.4.1** Specified outside diameters (D), wall thicknesses (T) and masses per unit length for tubes of Medium and Heavy series are listed in Table 2.

# Bestelformulier

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