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Steel tubes for precision applications - Technical delivery conditions - Part 1: Seamless cold drawn tubes

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/16

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English Version

Steel tubes for precision applications - Technical delivery conditions - Part 1: Seamless cold drawn tubes

Tubes de précision en acier - Conditions techniques de livraison - Partie 1: Tubes sans soudure étirés à froid

Präzisionsstahlrohre - Technische Lieferbedingungen - Teil 1: Nahtlose kaltgezogene Rohre

This European Standard was approved by CEN on 18 January 2016.

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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Symbols.....	6
5 Classification and designation.....	7
5.1 Classification.....	7
5.2 Designation.....	7
6 Information to be supplied by the purchaser	7
6.1 Mandatory information	7
6.2 Options.....	7
6.3 Example of an order	8
7 Manufacturing process.....	9
7.1 Steelmaking process	9
7.2 Tube manufacture and delivery conditions	9
8 Requirements	9
8.1 General.....	9
8.2 Chemical composition	10
8.3 Mechanical properties.....	11
8.4 Appearance and internal soundness.....	11
8.5 Dimensions and tolerances	12
8.5.1 Outside diameter, inside diameter, wall thickness and eccentricity	12
8.5.2 Lengths.....	17
8.5.3 Straightness.....	18
8.5.4 Preparation of ends.....	19
9 Inspection	19
9.1 Types of inspection.....	19
9.2 Inspection documents	19
9.2.1 Types of inspection documents.....	19
9.2.2 Content of inspection documents.....	19
9.3 Summary of inspection and testing	20
10 Sampling.....	21
10.1 Test unit.....	21
10.2 Preparation of samples and test pieces	21
10.2.1 Location, orientation and preparation of samples and test pieces for mechanical tests	21
10.2.2 Test pieces for roughness measurement.....	21
11 Test methods	21
11.1 Tensile test	21
11.2 Flattening test.....	22
11.3 Drift expanding test.....	22

11.4	Dimensional inspection	23
11.5	Roughness measurement	23
11.6	Visual examination	23
11.7	Non-destructive testing	23
11.7.1	Testing for longitudinal imperfections	23
11.7.2	Leak tightness	23
11.8	Retests, sorting and reprocessing	23
12	Marking	23
13	Protection and packaging	24
	Annex A (informative) Requirement for additional steel grades	25
	Bibliography	28

European foreword

This document (EN 10305-1:2016) has been prepared by Technical Committee ECISS/TC 110 “Steel tubes and iron and steel fittings”, 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 September 2016 and conflicting national standards shall be withdrawn at the latest by September 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 10305-1:2010.

In comparison with the previous edition, the following technical changes have been made:

- a) References were adapted;
- b) The options were renumbered in such a way that now throughout all parts the number of options are the same;
- c) Editorial updates.

EN 10305, *Steel tubes for precision applications — Technical delivery conditions*, consists of the following parts:

- *Part 1: Seamless cold drawn tubes*
- *Part 2: Welded cold drawn tubes*
- *Part 3: Welded cold sized tubes*
- *Part 4: Seamless cold drawn tubes for hydraulic and pneumatic power systems*
- *Part 5: Welded cold sized square and rectangular tubes*
- *Part 6: Welded cold drawn tubes for hydraulic and pneumatic power systems*

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the technical delivery conditions for seamless cold drawn steel tubes of circular cross section for precision applications with specified outside diameter $D \leq 380$ mm.

This document may also be applied to other types of cross sections.

Tubes according to this document are characterized by having precisely defined tolerances on dimensions and a specified maximum surface roughness. Typical fields of application are in the automotive, furniture and general engineering industries.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10020:2000, *Definition and classification of grades of steel*

EN 10021:2006, *General technical delivery conditions for steel products*

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

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

EN 10052:1993, *Vocabulary of heat treatment terms for ferrous products*

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

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

EN 10266:2003, *Steel tubes, fittings and structural hollow sections - Symbols and definitions 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)*

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

EN ISO 4287, *Geometrical product specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters (ISO 4287)*

EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1)*

EN ISO 8492, *Metallic materials - Tube - Flattening test (ISO 8492)*

EN ISO 8493, *Metallic materials - Tube - Drift-expanding test (ISO 8493)*

EN ISO 10893-1, *Non-destructive testing of steel tubes - Part 1: Automated electromagnetic testing of seamless and welded (except submerged arc-welded) steel tubes for the verification of hydraulic leaktightness (ISO 10893-1)*

EN 10305-1:2016 (E)

EN ISO 10893-2, *Non-destructive testing of steel tubes - Part 2: Automated eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections (ISO 10893-2)*

EN ISO 10893-3, *Non-destructive testing of steel tubes - Part 3: Automated full peripheral flux leakage testing of seamless and welded (except submerged arc-welded) ferromagnetic steel tubes for the detection of longitudinal and/or transverse imperfections (ISO 10893-3)*

EN ISO 10893-10, *Non-destructive testing of steel tubes - Part 10: Automated full peripheral ultrasonic testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of longitudinal and/or transverse imperfections (ISO 10893-10)*

ISO 11484, *Steel products - Employer's qualification system for non-destructive testing (NDT) personnel*

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