

**Steel tubes for precision applications - Technical
delivery conditions - Part 5: Welded and cold sized
square and rectangular tubes**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 10305-5:2010 sisaldab Euroopa standardi EN 10305-5:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.03.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 20.01.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 10305-5:2010 consists of the English text of the European standard EN 10305-5:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.03.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 20.01.2010.

The standard is available from Estonian standardisation organisation.

ICS 23.040.10

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English Version

Steel tubes for precision applications - Technical delivery conditions - Part 5: Welded cold sized square and rectangular tubes

Tubes de précision en acier - Conditions techniques de livraison - Partie 5 : Tubes soudés calibrés avec section carrée et rectangulaire

Präzisionsstahlrohre - Technische Lieferbedingungen - Teil 5: Geschweißte maßumgeformte Rohre mit quadratischem und rechteckigem Querschnitt

This European Standard was approved by CEN on 22 November 2009.

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Foreword

This document (EN 10305-5:2010) 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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

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 10305-5:2003.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the technical delivery conditions for welded cold sized steel tubes of square and rectangular cross section for precision applications.

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

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 10246-3¹⁾, *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 10246-8²⁾, *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 10256, *Non-destructive testing of steel tubes — Qualification and competence of level 1 and 2 non-destructive testing personnel*

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 377:1997)*

EN ISO 2566-1, *Steel — Conversion of elongation values — Part 1: Carbon and low alloy steels (ISO 2566-1:1984)*

EN ISO 4287, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287:1997)*

1) Under revision to become 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/DIS 10893-2:2009)*.

2) Under revision to become EN ISO 10893-11, *Non-destructive testing of steel tubes — Part 11: Automated ultrasonic testing of weld seam of welded steel tubes for the detection of longitudinal and/or transversal imperfections (ISO/DIS 10893-11:2009)*.

EN ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2009)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10020:2000, EN 10021:2006, EN 10052:1993, EN 10266:2003 and the following apply.

3.1

employer

organization for which a person works on a regular basis

NOTE The employer can be either the tube manufacturer or a third party organization providing non-destructive testing (NDT) services.

3.2

manufacturer

party to produce and to deliver tubes in accordance with this document

NOTE Where tubes are delivered by a supplier, see EN 10021:2006, Clause 6.

3.3

imperfection

discontinuity in the wall or on the pipe surfaces detectable by methods described in this document

NOTE Imperfections with a size complying with the acceptance criteria specified in this document are considered to have no practical implication on the intended use of the product.

3.4

defect

imperfection of a size not complying with the acceptance criteria specified in this document

NOTE Defects are considered to adversely affect or limit the intended use of the product.

3.5

parent coil

coil originating from the hot rolling process prior to any further operation (pickling, slitting, cold rolling or coating)

4 Symbols

For the purposes of this document, the symbols in EN 10266:2003 apply.

5 Classification and designation

5.1 Classification

In accordance with the classification system in EN 10020 the steel grades given in Table 2 are non-alloy quality steels.

5.2 Designation

For the tubes covered by this document the steel designation consists of the number of this document (EN 10305-5) plus either: