

Steel tubes for precision applications — Technical delivery conditions —

Part 3: Welded cold sized tubes

The European Standard EN 10305-3:2002 has the status of a British Standard

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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 10305-3:2002. Together with BS EN 10296-1:2003 and BS EN 10305-5:2003 it supersedes BS 6323-5:1982 which is withdrawn. Together with BS EN 10305-2:2002 and BS EN 10305-6:2005 it supersedes BS 6323-6:1982 which is withdrawn. Together with BS EN 10296-1:2003, BS EN 10296-2:2005, BS EN 10297-1:2003, BS EN 10305-1:2002, BS EN 10305-2:2002, BS EN 10305-4:2003, BS EN 10305-5:2003 and BS EN 10305-6:2005 it supersedes BS 6323-1:1982 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/8, Steel pipes.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English version

**Steel tubes for precision applications - Technical delivery
conditions - Part 3: Welded cold sized tubes**

Tubes de précision en acier - Conditions techniques de
livraison - Partie 3: Tubes soudés calibrés

Präzisionsstahlrohre - Technische Lieferbedingungen - Teil
3: Geschweißte maßgewalzte Rohre

This European Standard was approved by CEN on 2 October 2002.

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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.

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Foreword

This document EN 10305-3:2002 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of an identical text or by endorsement, at the latest by May 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

EN 10305 consists of the following parts under the general title "*Steel tubes for precision applications - Technical delivery conditions*":

$\frac{3}{4}$ *Part 1: Seamless cold drawn tubes.*

$\frac{3}{4}$ *Part 2: Welded cold drawn tubes.*

$\frac{3}{4}$ *Part 3: Welded cold sized tubes.*

$\frac{3}{4}$ *Part 4: Seamless cold drawn tubes for hydraulic and pneumatic power systems.*

$\frac{3}{4}$ *Part 5: Welded and cold sized square and rectangular tubes.*

$\frac{3}{4}$ *Part 6: Welded cold drawn tubes for hydraulic and pneumatic power systems.*

In this European Standard the annex A is 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.

1 Scope

This Part of EN 10305 specifies the technical delivery conditions for welded cold sized steel tubes of circular cross section for precision applications.

NOTE This Part of EN 10305 may also be applicable to non-circular (excluding square and rectangular) cross sections.

Tubes according to this Part of EN 10305 are characterized by having precisely defined tolerances on dimensions and a specified surface roughness. Typical fields of application are in the vehicle, furniture and general engineering industries.

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

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

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

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

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 10256, *Non-destructive testing of steel tubes — Qualification and competence of level 1 and 2 non-destructive testing personnel.*

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)*.

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

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

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

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

CR 10260, *Designation systems for steel — Additional symbols*.

3 Terms and definitions

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

parent coil

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

4 Symbols

See prEN 10266.

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 Part of EN 10305 the steel designation consists of

¾ the number of this Part of EN 10305, EN 10305-3;

plus either:

¾ the steel name in accordance with EN 10027-1 and CR 10260; or

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.