



NSAI
Standards

Irish Standard
I.S. EN 10216-5:2013

Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes

I.S. EN 10216-5:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 10216-5:2013

Published:

2013-12-11

This document was published under the authority of the NSAI and comes into effect on:

2013-12-21

ICS number:

23.040.10

77.140.75

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 10216-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2013

ICS 23.040.10; 77.140.75

Supersedes EN 10216-5:2004

English Version

Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes

Tubes sans soudure pour service sous pression -
Conditions techniques de livraison - Partie 5: Tubes en
aciers inoxydables

Nahtlose Stahlrohre für Druckbeanspruchungen -
Technische Lieferbedingungen - Teil 5: Rohre aus
nichtrostenden Stählen

This European Standard was approved by CEN on 17 August 2013.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

EN 10216-5:2013 (E)

Contents	Page
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 Examples of an order	8
7 Manufacturing process	9
7.1 Steelmaking process	9
7.2 Tube manufacture and delivery conditions	9
8 Requirements	10
8.1 General.....	10
8.2 Chemical composition	10
8.3 Mechanical properties.....	16
8.4 Corrosion resistance.....	25
8.5 Appearance and soundness.....	25
8.6 Straightness	26
8.7 Preparation of ends	26
8.8 Dimensions, masses and tolerances.....	27
9 Inspection	28
9.1 Type of inspection	28
9.2 Inspection documents.....	28
9.3 Summary of inspection and verification testing	29
10 Sampling.....	29
10.1 Test unit.....	29
10.2 Preparation of samples and test pieces.....	31
11 Verification test methods.....	32
11.1 Chemical analysis.....	32
11.2 Tensile test	32
11.3 Technological tests	33
11.4 Impact test	34
11.5 Intergranular corrosion test.....	35
11.6 Leak tightness test	35
11.7 Dimensional inspection	36
11.8 Visual examination	36
11.9 Non-destructive testing.....	36
11.10 Material identification.....	36
11.11 Retests, sorting and reprocessing.....	36
12 Marking	36
12.1 Marking to be applied.....	36
12.2 Additional marking	37
13 Handling and packaging	37
Annex A (informative) Reference data of strength values for creep rupture of austenitic steels in the solution annealed condition.....	38

Annex B (informative) Technical changes from the previous edition	44
Annex ZA (informative) Clauses of this part of EN 10216 addressing essential safety requirements of the EU Directive 97/23/EC	45
Bibliography.....	46

EN 10216-5:2013 (E)

Foreword

This document (EN 10216-5:2013) has been prepared by Technical Committee ECISS/TC 110 "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 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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 10216-5:2004.

For the list of the most significant technical changes that have been made in this new edition, see Annex B.

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.

This European Standard consists of the following parts, under the general title "*Seamless steel tubes for pressure purposes – Technical delivery conditions*":

- *Part 1: Non-alloy steel tubes with specified room temperature properties;*
- *Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties;*
- *Part 3: Alloy fine grain steel tubes;*
- *Part 4: Non-alloy and alloy steel tubes with specified low temperature properties;*
- *Part 5: Stainless steel tubes* (the present document).

Another European Standard series covering tubes for pressure purposes is:

EN 10217, *Welded steel tubes for pressure purposes – Technical delivery conditions*.

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 in two test categories for seamless tubes of circular cross section made of austenitic (including creep resisting steel) and austenitic-ferritic stainless steel which are intended for pressure and corrosion resisting purposes at room temperature, at low temperatures or at elevated temperatures.

NOTE Once this standard is published in the Official Journal of the European Union (OJEU) under Directive 97/23/EC, presumption of conformity to the Essential Safety Requirements (ESR) of Directive 97/23/EC is limited to technical data of materials in this standard and does not presume adequacy of the material to a specific item of equipment. Consequently, the assessment of the technical data stated in this material standard against the design requirements of this specific item of equipment to verify that the ESRs of the Pressure Equipment Directive are satisfied, needs to be done by the designer or manufacturer of the pressure equipment, taking also into account the subsequent manufacturing processes which may affect properties of the base materials.

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, *Definitions and classification of grades of steel*

EN 10021, *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 10028-7:2007, *Flat products made of steels for pressure purposes - Part 7: Stainless steels*

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

EN 10088-1:2005, *Stainless steels - Part 1: List of stainless steels*

EN 10168:2004, *Steel products - Inspection documents - List of information and description*

EN 10204:2004, *Metallic products - Types of inspection documents*

EN 10266, *Steel tubes, fittings and structural hollow sections - Symbols and definitions of terms for use in product standards*

CEN/TR 10261, *Iron and steel - Review of available methods of chemical analysis*

EN ISO 148-1:2010, *Metallic materials - Charpy pendulum impact test - Part 1: Test method (ISO 148-1:2009)*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377)*

EN ISO 643, *Steels - Micrographic determination of the apparent grain size (ISO 643)*

EN ISO 2566-2, *Steel - Conversion of elongation values - Part 2: Austenitic steels (ISO 2566-2)*

EN ISO 3651-2:1998, *Determination of resistance to intergranular corrosion of stainless steels - Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in media containing sulfuric acid (ISO 3651-2:1998)*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-