



SLOVENSKI STANDARD
oSIST prEN 10357:2021
01-julij-2021

Avstenitne, avstenitno-feritne in feritne vzdolžno varjene cevi iz nerjavnega jekla za prehrambno in kemično industrijo

Austenitic, austenitic-ferritic and ferritic longitudinally welded stainless steel tubes for the food and chemical industry

Austenitische, austenitisch-ferritische und ferritische längsnahtgeschweißte Rohre aus nichtrostendem Stahl für die Lebensmittel- und chemische Industrie

Tubes soudés longitudinalement en acier inoxydable austénitique, ferritique et austéno-ferritique pour l'industrie alimentaire et chimique

<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477aa13d0/osist-pr-en-10357-2021>

Ta slovenski standard je istoveten z: prEN 10357

ICS:

77.140.75	Jeklene cevi in cevni profili za posebne namene	Steel pipes and tubes for specific use
-----------	---	--

oSIST prEN 10357:2021

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 10357:2021](https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021)

<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 10357

June 2021

ICS 23.040.10

Will supersede EN 10357:2013

English Version

Austenitic, austenitic-ferritic and ferritic longitudinally welded stainless steel tubes for the food and chemical industry

Tubes soudés longitudinalement en acier inoxydable
austénitique, ferritique et austéno-ferritique pour
l'industrie alimentaire et chimique

Austenitische, austenitisch-ferritische und ferritische
längsnahtgeschweißte Rohre aus nichtrostendem Stahl
für die Lebensmittel- und chemische Industrie

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 459/SC 10.

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.

This draft European Standard was established by CEN 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Dimensions and tolerances	4
4.1 Dimensions and tolerances for tubes	4
4.2 Straightness	7
5 Information to be supplied by the purchaser	7
5.1 Mandatory information	7
5.2 Options	7
5.3 Example of an order	7
5.3.1 Example 1	7
5.3.2 Example 2	8
6 Materials	8
7 Manufacturing process, requirements and surface characteristics	8
8 Testing and inspection documents	10
9 Marking	10
10 Packaging and transport	10
Annex A (informative) Responsibility on selection of material	11
Bibliography	12

iTeh STANDARD PREVIEW
(standards.iteh.ai)

oSIST prEN 10357:2021
<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae12d0/osist-pr-en-10357-2021>

European foreword

This document (prEN 10357:2021) has been prepared by Technical Committee CEN/TC 459/SC 10 “Steel tubes, and iron and steel fittings”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 10357:2013.

The follow significant technical changes were made in comparison to the previous version:

- Subclause 3.1, Table 1: added new dimension.
- Subclause 3.1, Table 2: deleted series B, changed dimensions in series C.
- Clause 6, Table 3: modified surface characteristics and roughness and symbols.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[oSIST prEN 10357:2021](https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021)

<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021>

1 Scope

This document specifies dimensions, tolerances, materials, internal and external surface characteristics, and marking of stainless steels longitudinally fusion welded tubes for the food and chemical industry.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 10028-7:2016, *Flat products made of steels for pressure purposes - Part 7: Stainless steels*

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

EN 10217-7, *Welded steel tubes for pressure purposes - Technical delivery conditions - Part 7: Stainless steel tubes*

EN ISO 4288, *Geometrical product specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture (ISO 4288)*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Dimensions and tolerances

4.1 Dimensions and tolerances for tubes

Dimensions and tolerances for tubes are indicated in Table 1 and Table 2.

Table 1 — Preferred dimensions and tolerances ^a (mm)

Series A	External tube diameter	13,00	19,00	23,00	29,00	35,00	41,00	53,00	70,00	85,00	104,00	129,00	154,00	204,00	254,00
	External diameter tolerances	±0,10	±0,10	±0,12	±0,15	±0,18	±0,21	±0,27	±0,35	±0,43	±0,78	±0,97	±1,16	±1,53	±1,91
	Internal diameter (theoretical)	10,00	16,00	20,00	26,00	32,00	38,00	50,00	66,00	81,00	100,00	125,00	150,00	200,00	250,00
	Wall thickness	1,50	1,50	1,50	1,50	1,50	1,50	1,50	2,00	2,00	2,00	2,00	2,00	2,00	2,00
	Wall thickness tolerances	±0,15	±0,15	±0,15	±0,15	±0,15	±0,15	±0,15	±0,20	±0,20	±0,20	±0,20	±0,20	±0,20	±0,20

^a For dimensions different from the ones listed above the tolerances are:

EN ISO 1127-D4 for external diameter ≤ 85,00 mm.

EN ISO 1127-D3 for external diameter > 85,00 mm.

In external diameter tolerances ovality is included.

For wall thickness ± 10 %.

ITh STANDARD PREVIEW

(standards.iteh.ai)

oSIST prEN 10357:2021

<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021>

Table 2 — Alternative dimensions and tolerances ^a (mm)

Series C	External tube diameter	12,7 0	19,05	25,40	38,10	50,80	63,50	76,20	101,60	152,40
	External diameter tolerances	±0,13	±0,13	±0,13	±0,20	±0,20	±0,25	±0,25	±0,38	±0,76
	Internal diameter (theoretical)	9,40	15,75	22,10	34,80	47,50	60,20	72,90	97,38	146,86
	Wall thickness	1,65	1,65	1,65	1,65	1,65	1,65	1,65	2,11	2,77
	Wall thickness tolerances	±0,17	±0,17	±0,17	±0,17	±0,17	±0,17	±0,17	±0,21	±0,28
Series D	External tube diameter	25,0 0	32,00	38,00	51,00	63,50	76,10	101,60		
	External diameter tolerances	±0,13	±0,16	±0,19	±0,25	±0,32	±0,38	±0,76		
	Internal diameter (theoretical)	22,60	29,60	35,60	48,60	60,30	72,90	97,60		
	Wall thickness	1,20	1,20	1,20	1,20	1,60	1,60	2,00		
	Wall thickness tolerances	±0,12	±0,12	±0,12	±0,12	±0,16	±0,16	±0,20		
^a For dimensions different from the ones listed above the tolerances are: EN ISO 1127-D4 for external diameter ≤ 76,20 mm. EN ISO 1127-D3 for external diameter > 76,20 mm. In external diameter tolerances ovality is included. For wall thickness ± 10 %.										

4.2 Straightness

Straightness deviation for a given length shall be determined by the following formula:

$$0,0015 \times \text{length}$$

and shall not exceed 2 mm/m.

5 Information to be supplied by the purchaser

5.1 General

If product falls under PED directive, it is the responsibility of the purchaser to specify all relevant requirements as per Subclause 5.2 and 5.3.

5.2 Mandatory information

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

- a) the quantity (total weight or total metres or number of tubes);
- b) the reference to this document;
- c) the term “tube”;
- d) manufacturing process symbol (CL1 CC, CL1 CD, CL1 BC, CL1 BD, CL2 CC, CL2 CD, CL2 BC, CL2 BD) and surface characteristics (see Table 3);
- e) the dimensions (outside diameter D and wall thickness T) (see Table 1 and Table 2);
- f) single unit length and related tolerance;
- g) the designation of the steel grade according to EN 10217-7 except for ferritic grades;
- h) the designation of the steel grade according to EN 10028-7 only for ferritic;
- i) production and testing according to EN 10217-7 TC1 or TC2; for ferritic grades the reference values shall be agreed;
- j) other options according to EN 10217-7.

5.3 Options

If not specified at the time of the enquiry and the order the standard tubes are supplied in Class 1 (see Table 3).

Tubes according product class 2 (see Table 3) shall be requested at the time of the enquiry and the order.

5.4 Example of an order

5.4.1 Example 1

1000 m of welded tube according to EN 10357, manufacturing process and product class CL1 BC, external diameter = 41 mm, thickness = 1,5 mm, single unit length 6 000 mm (0/+100) mm test category 1 according to EN 10217-7, grade 1.4404 and inspection certificate 3.1 according to EN 10204:

1000 m Tube EN 10357 — CL1 BC - 41 × 1,5 × 6 000 (0/+100) mm - TC1 - EN 10217-7/1.4404 - 3.1

prEN 10357:2021 (E)**5.4.2 Example 2**

1 000 m of welded tube according to EN 10357, manufacturing process and product class CL2 BD, external diameter = 70 mm, thickness = 2 mm, single unit length 6 000 mm (0/+100) mm test category 1 according to EN 10217-7, grade 1.4404 and inspection certificate 3.1 according to EN 10204:

1 000 m Tube EN 10357 — CL2 BD - 70 × 2 × 6 000 (0/+100) mm - TC1 – EN 10217-7/1.4404 - 3.1

6 Materials

Materials used for tubes manufacturing according to this document shall be:

- austenitics and austenitic-ferritics according to EN 10028-7;
- ferritics according to EN 10028-7.

7 Manufacturing process, requirements and surface characteristics

The tubes shall be manufactured from cold rolled plate, sheet or strip, longitudinally fusion welded, with or without the addition of filler metal.

Manufacturing process, requirements and surface characteristics are specified in Table 3.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 10357:2021](https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021)

<https://standards.iteh.ai/catalog/standards/sist/ec50f3f5-c9b6-4b11-b89d-ba7477ae13d0/osist-pren-10357-2021>