

TC 5

International Standard



2037

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Metal pipes and fittings — Stainless steel tubes for the food industry

Tuyauteries et raccords métalliques — Tubes en acier inoxydable pour l'industrie alimentaire

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Price based on 2 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2037 was developed by Technical Committee ISO/TC 5, *Metal pipes and fittings*.

It was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 2037-1971, which had been approved by the member bodies of the following countries :

Australia	Greece	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	India	Sweden
Canada	Israel	Switzerland
Czechoslovakia	Italy	Thailand
Denmark	Korea, Rep. of	United Kingdom
Egypt, Arab Rep. of	Netherlands	USSR
France	Norway	
Germany, F. R.	Poland	

No member body had expressed disapproval of the document.

Metal pipes and fittings — Stainless steel tubes for the food industry

1 Scope and field of application

Dimensions in millimetres

This International Standard lays down the dimensions and tolerances and specifies surface roughness, materials and hygienic requirements for seamless or welded stainless steel tubes in straight lengths for the food industry.

2 References

ISO 468, *Surface roughness — Parameters, their values and general rules for specifying surfaces.*¹⁾

ISO 1127, *Stainless steel tubes — Dimensions, tolerances and masses per unit length.*

ISO 2604/2, *Steel products for pressure purposes — Quality requirements — Part 2 : Wrought seamless tubes.*

ISO 2604/5, *Steel products for pressure purposes — Quality requirements — Part 5 : Longitudinally welded austenitic stainless steel tubes.*

ISO 4200, *Plain end steel tubes, welded and seamless — General tables of dimensions and conventional masses per unit length.*

3 Dimensions

The dimensions given in the table opposite are chosen from ISO 1127, series 1 and 2 outside diameter. For further information concerning the series see also ISO 4200.

Outside tube diameter	Thickness
12	1
17,2	1
21,3	1
25	1,2
33,7	1,2
38	1,2
40	1,2
51	1,2
63,5	1,6
70	1,6
76,1	1,6
88,9	2
101,6	2
114,3	2
139,7	2
168,3	2,6
219,1	2,6
273	2,6
323,9	2,6
355,6	2,6
406,4	3,2

NOTE — The diameters 18, 22 and 28 mm stated in ISO/R 2037 should not be used in future.

1) At present at the stage of draft. (Revision of ISO/R 468-1966.)

4 Tolerances

The deviations permitted for the outside diameter and thickness are limited by the following tolerances :

4.1 Tolerance on outside diameter

For diameters less than or equal to 101,6 mm : $\pm 0,50$ % with a minimum of $\pm 0,10$ mm. (Corresponding to tolerance D_4 as specified in ISO 1127.)

For diameters greater than 101,6 mm : $\pm 0,75$ %. (Corresponding to tolerance D_3 as specified in ISO 1127.)

4.2 Tolerance on thickness

± 10 % of basic value. (Corresponding to tolerance T_3 as specified in ISO 1127.)

5 Surface roughness

The surface roughness, in accordance with ISO 468, shall be :

5.1 Finely finished surface

$R_a < 1,0$ μm

5.2 Other surfaces

$R_a < 2,5$ μm

NOTE — Surface roughness on the welded seam shall not exceed $R_{\text{max.}} = 16$ μm .

6 Materials

Austenitic stainless steels shall be used. Generally the following steel types are suitable for pressure purposes :

- seamless tubes : TS 47, TS 60 and TS 61 given in ISO 2604/2;
- welded tubes : TW 47, TW 60 and TW 61 given in ISO 2604/5.

7 Hygienic requirements

7.1 Care shall be taken that any non-ferrous metals or their alloys coming into contact with the tubes during manufacture are not deposited so as to be harmful during subsequent fabrication and use.

7.2 The tubes shall be internally clean and smooth. They shall be free from surface defects, inclusions and from longitudinal grooving.

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