

Stainless steel tubesDimensions, tolerances and conventional masses per unit length
(ISO 1127:1992)

English version of DIN EN ISO 1127

DIN**EN ISO 1127**

ICS 23.040.10

Descriptors: Steel, pipes, dimensions.

Nichtrostende Stahlrohre – Maße, Grenzabmaße und längenbezogene Masse
(ISO 1127:1992)Supersedes
DIN 2462-1 and
DIN 2463-1, March
1981 editions, and
May 1996 edition.**European Standard EN ISO 1127:1996 has the status of a DIN Standard.***A comma is used as the decimal marker.***National foreword**

This standard has been published in accordance with a decision taken by ECISS/TC 29 to adopt, without alteration, International Standard ISO 1127 as a European Standard.

The responsible German body involved in its preparation was the *Normenausschuß Eisen und Stahl* (Steel and Iron Standards Committee).**Amendments**

In comparison with DIN 2462-1 and DIN 2463-1, March 1981 editions, the following amendments have been made.

- a) The specifications for seamless and welded pipes have been combined.
- b) Tolerances on the pipe length are no longer specified.
- c) Tolerances on the outside diameter and wall thickness have been changed.
- d) An outside diameter of 12,7 mm has been included.

In comparison with DIN EN ISO 1127, May 1986 edition, a printing error in the German version has been corrected (i.e. no amendment has been made to the English version).

Previous editions

DIN 2462-1: 1969-03, 1981-03; DIN 2463-1: 1969-03, 1981-03; DIN EN ISO 1127: 1996-05.

EN comprises 8 pages.



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English version

Stainless steel tubes

Dimensions, tolerances and conventional masses per unit length
(ISO 1127:1992)

Tubes en acier inoxydable – Dimensions,
tolérances et masses linéiques
conventionnelles (ISO 1127:1992)

Nichtrostende Stahlrohre – Maße, Grenz-
abmaße und längenbezogene Masse
(ISO 1127:1992)

This European Standard was approved by CEN on 1996-02-16 and is identical to the ISO Standard as referred to.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 1127:1992 Stainless steel tubes – Dimensions, tolerances and conventional masses per unit length, which was prepared by ISO/TC 5 'Ferrous metal pipes and metallic fittings' of the International Organization for Standardization, has been adopted by Technical Committee ECISS/TC 29 'Steel tubes and fittings for steel tubes' as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by October 1996 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 1127:1992 was approved by CEN as a European Standard without any modification.

1 Scope

This International Standard specifies the diameters, thicknesses, tolerances and conventional masses per unit length of stainless steel tubes.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5252:1991, *Steel tubes — Tolerance systems*.

3 Dimensions

The outside diameters and thicknesses of the tubes specified in this International Standard have been selected from ISO 4200. If thicknesses greater than 14,2 mm are needed, they should be chosen from ISO 4200.

4 Tolerances

The tolerances permitted on the outside diameter and thickness of the tubes result from the method of manufacture, the steel types and the heat treatment. The tolerances shall be selected from the values given in tables 1 and 2.

4.1 Tolerances on outside diameter

See table 1.

Table 1 — Tolerances on outside diameter

Tolerance class	Tolerance on outside diameter
D ₁	$\pm 1,5 \%$ with $\pm 0,75$ mm min.
D ₂	$\pm 1 \%$ with $\pm 0,5$ mm min.
D ₃	$\pm 0,75 \%$ with $\pm 0,3$ mm min.
D ₄	$\pm 0,5 \%$ with $\pm 0,1$ mm min.

The tolerances on outside diameter include ovality.

4.2 Tolerances on thickness

See table 2.

Table 2 — Tolerances on thickness

Tolerance class	Tolerance on thickness
T ₁	$\pm 15 \%$ with $\pm 0,6$ mm min.
T ₂	$\pm 12,5 \%$ with $\pm 0,4$ mm min.
T ₃	$\pm 10 \%$ with $\pm 0,2$ mm min.
T ₄	$\pm 7,5 \%$ with $\pm 0,15$ mm min.
T ₅	$\pm 5 \%$ with $\pm 0,1$ mm min.

The tolerances on thickness include eccentricity.

4.3 Other tolerances

For tolerances on dimensions other than outside diameter and thickness, reference shall be made to ISO 5252.

5 Conventional masses per unit length

The conventional masses per unit length given in table 3 for austenitic stainless steel tubes are the

masses given in ISO 4200 multiplied by a factor of 1,015. This factor assumes an average density for these tubes of $7,97 \text{ kg/dm}^3$.

The conventional masses per unit length given in table 4 for ferritic and martensitic stainless steel tubes are the masses given in ISO 4200 multiplied by a factor of 0,985. This factor assumes an average density for these tubes of $7,73 \text{ kg/dm}^3$.

Table 3 — Conventional masses for austenitic stainless steel tubes

[illegible]

Table 4 — Conventional masses for ferritic and martensitic stainless steel tubes

Outside diameter mm				Thickness, mm																				
Series				Conventional mass per unit length, kg/m																				
1	2	3		1,0	1,2	1,6	2,0	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3	7,1	8,0	8,8	10,0	11,0	12,5	14,2
	6			0,121	0,140																			
	8			0,170	0,198																			
	10			0,219	0,256																			
	10,2			0,224	0,262	0,334	0,398																	
	12			0,267		0,404	0,488																	
	12,7			0,285	0,335	0,431	0,520	0,591	0,638	0,690	0,739													
	13,5			0,303	0,359	0,463	0,558	0,625	0,747															
	17,2			0,394		0,607	0,739	0,832			1,08													
		14		0,316		0,492	0,583																	
	16			0,384	0,431	0,559	0,681																	
	19			0,437	0,519	0,677	0,825																	
	20			0,462	0,548	0,715	0,875																	
	21,3			0,493		0,765	0,938		1,18		1,41		1,68											
		22		0,510			0,971																	
	25			0,583	0,693	0,908	1,11		1,42															
	26,9			0,629		0,705	0,925	1,13	1,44															
		25,4				0,983	1,21		1,54	1,69	1,84		2,23											
		30				1,10	1,38																	
	31,8			0,892	1,17	1,45			1,84		2,23		2,70											
	32			0,897		1,46																		
	33,7			0,794	0,948	1,25	1,54	1,75	1,96		2,37		3,19											
		35		0,985		1,61																		
	38			1,07	1,42	1,75		2,24			2,71													
	40			1,13	1,50			2,36																
	42,4				1,59	1,98		2,51		3,04	3,39		4,54											
							2,07	2,65	2,94															
		44,5																						

Outside diameter mm			Thickness, mm																						
			Conventional mass per unit length, kg/m																						
1	2	3	1,0	1,2	1,6	2,0	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3	7,1	8,0	8,8	10,0	11,0	12,5	14,2		
48,3					1,81	2,25		2,89		3,51	3,91				5,26										
	51		1,21	1,45	1,92	2,38		3,05		3,71															
		54			2,04	2,52		3,25																	
	57				2,16	2,67			3,81							7,44									
60,3					2,29	2,84	3,24	3,64	4,05	4,44	4,95	5,47													
	63,5				2,40	2,98		3,84		4,69															
	70				2,66	3,30			4,73						8,64			11,9							
76,1					2,90	3,60	4,13	4,64	5,16		6,34	7,00													
		82,5				3,91				6,17															
88,9					3,39	4,23	4,84	5,45	6,06	6,66	7,46	8,25				11,3		15,8							
	101,6					4,84			6,95			9,49				13,1		18,2							
114,3					4,38	5,46		7,05	7,85		9,68		12,0				16,5		22,6		31,5				
139,7					5,37	6,69		8,66		10,6		13,2		16,4			20,4	22,9							
168,3					6,48	8,08		10,4		12,8		16,0	17,9	19,8				27,8				42,1			
219,1						10,5		13,7		16,7	18,8	20,9					32,6	41,0					62,7		
273						13,2		17,0		21,0	23,5	26,1					40,8				63,9	79,1	89,2		
323,9								20,3		24,9		31,1	34,9	38,7				54,7			76,2	94,6			
355,6								22,3		27,4		34,2		42,6							83,9	92,1	104		
406,4								25,5		31,3		39,1		48,8							96,3	119			
457										35,3		44,0		54,9							108	135	153		
508										39,2	44,1				61,1										
610										47,2		58,9			82,2	92,4						133	151	170	
711																		121	157						
813																									
914																				193					
1 016																					244				

Annex A **(informative)**

Bibliography

- [1] ISO 4200:1991, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length.*