
International Standard



1127

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Stainless steel tubes — Dimensions, tolerances and conventional masses per unit length

Tubes en acier inoxydable — Dimensions, tolérances et masses linéiques conventionnelles

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Foreword

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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 1127 was developed by Technical Committee ISO/TC 5, *Metal pipes and fittings*, and was circulated to the member bodies in March 1979.

It has been approved by the member bodies of the following countries:

Australia	Hungary	Romania
Austria	India	South Africa, Rep. of
Belgium	Israel	Spain
Canada	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Denmark	Korea, Rep. of	United Kingdom
Finland	Mexico	USSR
France	Norway	

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (ISO 1127-1977)

Stainless steel tubes — Dimensions, tolerances and conventional masses per unit length

0 Introduction

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

1 Scope and field of application

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

2 References

ISO 221, *Steel tubes — Wall thicknesses.*

ISO 4200, *Plain end steel tubes, welded and seamless — General tables of dimensions and conventional masses per unit length.*¹⁾

ISO 5252, *Steel tubes — Tolerance systems.*

3 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 following values.

3.1 Tolerances on outside diameter

$D_1 : \pm 1,5 \%$ with a minimum of $\pm 0,75$ mm

$D_2 : \pm 1,0 \%$ with a minimum of $\pm 0,50$ mm

$D_3 : \pm 0,75 \%$ with a minimum of $\pm 0,30$ mm

$D_4 : \pm 0,50 \%$ with a minimum of $\pm 0,10$ mm

The tolerances on outside diameter include ovality.

3.2 Tolerances on thickness

$T_1 = \pm 15 \%$ with a minimum of $\pm 0,6$ mm

$T_2 = \pm 12,5 \%$ with a minimum of $\pm 0,4$ mm

$T_3 = \pm 10 \%$ with a minimum of $\pm 0,2$ mm

$T_4 = \pm 7,5 \%$ with a minimum of $\pm 0,15$ mm

$T_5 = \pm 5 \%$ with a minimum of $\pm 0,10$ mm

The tolerances on thickness include eccentricity.

3.3 Other tolerances

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

4 Conventional masses per unit length

The conventional masses per unit length given in table 1 for austenitic stainless steel tubes are the masses of ISO 4200 multiplied by a factor of 1,015. This factor assumes an average density for these tubes of 7,97 kg/dm³.

The conventional masses per unit length given in table e for ferritic and martensitic stainless steel tubes are the masses of ISO 4200 multiplied by a factor of 0,985. This factor assumes an average density for these tubes of 7,73 kg/dm³.

1) At present at the stage of draft.

Table 1 — Conventional masses for austenitic stainless steel tubes

Outside diameter, mm: series	Conventional masses per unit length, kg/m, for thicknesses, mm																					
	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	
1																						
6	0,125	0,144																				
8	0,176	0,204																				
10	0,225	0,264																				
10,2	0,230	0,270	0,344	0,410																		
10,5	0,275	0,416	0,500	0,500																		
13,5	0,313	0,369	0,477	0,576	0,645		0,769															
16	0,326	0,445	0,486	0,601																		
17,2	0,406	0,625	0,761	0,858				1,12														
18	0,425	0,652	0,801																			
19	0,451	0,535	0,697	0,851																		
20	0,476	0,564	0,737	0,901																		
21,3	0,509	0,789	0,966		1,22		1,45		1,74													
22	0,526		1,00																			
25	0,601	0,715	0,937	1,15	1,46																	
25,4	0,649	0,727	0,953	1,17	1,48	1,58	1,75	1,90	2,29													
30		1,14	1,40	1,40					2,29													
31,8		0,920	1,21	1,49	1,90				2,78													
32		0,925	1,25	1,50																		
33,7	0,818	0,976	1,29	1,58	1,81	2,02	2,45	3,29														
35	1,02	1,11	1,46	1,81																		
38	1,17	1,54	1,63	2,02	2,13	2,44	3,14	4,68														
40	1,25	1,49	1,87	2,31	2,97	3,61	4,03	5,42														
42,4		1,63	1,98	2,46	3,15	3,83																
44,5		2,10	2,60	3,35	4,17	5,02																
48,3		2,22	2,75	3,34	4,17	5,02																
51		2,35	2,92	3,76	4,78	5,82																
54		2,48	3,08	3,96	4,97	6,02																
57		2,74	3,40	4,35	5,42	6,54																
60,3		2,98	3,70	4,78	5,92	7,12																
63,5		3,49	4,35	5,61	7,07	8,66																
70		4,52	5,62	7,27	9,09	11,0																
76,1		5,53	6,89	8,92	11,1	13,5																
82,5		6,68	8,32	10,9	14,1	17,3																
88,9			13,6	17,6	22,9	29,2																
101,6																						
114,3																						
139,7																						
168,3																						
219,1																						
273																						
323,9																						
355,6																						
406,4																						
457																						
508																						
610																						
711																						
813																						
914																						
1 016																						

Table 2 — Conventional masses for ferritic and martensitic stainless steel tubes

Outside diameter, mm: series	Conventional masses per unit length, kg/m, for thicknesses, mm																					
	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	
1																						
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	0,496	0,625																		
13,5	0,303	0,359	0,463	0,558	0,625																	
16	0,316	0,462	0,583																			
17,2	0,364	0,559	0,681																			
	0,394	0,607	0,739	0,832				1,08														
19	0,413	0,637	0,777																			
20	0,437	0,519	0,677	0,825																		
21,3	0,462	0,548	0,715	0,875																		
	0,493	0,765	0,938	1,18				1,41														
25	0,510	0,909	1,11																			
	0,583	0,705	0,925	1,13	1,44																	
26,9	0,629	0,983	1,21	1,54	1,69	1,84		2,23														
		1,10	1,36	1,61	1,84	2,23		2,70														
31,8		0,892	1,17	1,45	1,84	2,23		2,70														
32		0,897	1,42	1,75	2,24	2,71		3,19														
	0,794	0,948	1,25	1,54	1,75	1,96		2,37														
33,7		0,985	1,61	2,07	2,36	2,71		3,04														
		1,07	1,42	1,96	2,36	2,71		3,04														
38		1,13	1,50	2,07	2,51	2,94		3,51														
40			1,59	2,07	2,65	2,94		3,71														
			1,81	2,25	2,89	3,05		3,71														
42,4			1,92	2,38	3,05	3,25		3,91														
48,3	1,21	1,45	2,04	2,52	3,25	3,81		4,44														
			2,16	2,67	3,24	4,05		4,69														
60,3			2,29	2,84	3,84	4,73		5,47														
			2,40	2,98	3,84	4,73		5,47														
63,5			2,66	3,30	4,13	5,16		6,34														
70			2,90	3,60	4,54	5,64		7,00														
			3,16	3,91	4,84	5,83		7,25														
88,9			3,39	4,23	5,24	6,34		7,46														
			4,38	5,46	6,66	7,85		9,68														
101,6			5,37	6,69	8,08	9,68		10,6														
114,3			6,48	8,08	10,5	12,5		12,8														
139,7				13,2	17,0	20,3		16,7														
168,3					22,3	25,5		21,0														
219,1								24,9														
273								27,4														
323,9								31,3														
406,4								35,3														
457								38,2														
508								41,1														
610								47,2														
711								56,9														
813								61,1														
914								68,4														
1 016								82,2														
								88,4														
								92,4														
								96,3														
								108														
								119														
								133														
								151														
								170														
								181														
								193														
								244														

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