International Standard

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION MEXACINA OPPAHUSALUM NO CTAHDAPTUSALUMOORGANISATION INTERNATIONALE DE NORMALISATION

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

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

Second edition – 1980-03-15 iTeh STANDARD PREVIEW (standards.iteh.ai)

> <u>ISO 1127:1980</u> https://standards.iteh.ai/catalog/standards/sist/81077b8f-a5ad-4831-a909-2c9495aab01d/iso-1127-1980

UDC 621.643.23 : 669.14.018.8

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Descriptors : piping, steel tubes, stainless steels, austenitic steels, ferritic steels, martensitic steels, dimensions, dimensional tolerances, linear density, diameters, thickness.

1127

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 1127 was developed by Technical Committee ISO/TC 5, EVIEW 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 :

		<u>ISO 1127:1980</u>
Australia	Hungarytandards.iteh.a	ai/catalogymaniads/sist/81077b8f-a5ad-4831-a909-
Austria	1 I ¹	2c949 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)

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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.

 $\begin{array}{l} D_3:\ \pm\ 0,75\ \%\ \text{with a minimum of}\ \pm\ 0,30\ \text{mm}\\ D_4:\ \pm\ 0,50\ \%\ \text{with a minimum of}\ \pm\ 0,10\ \text{mm} \end{array}$

The tolerances on outside diameter include ovality.

iTeh STANDARD PREVIEW 3.2 Tolerances on thickness 1 Scope and field of application (standards.iteh.ai)

This International Standard specifies the diameters, $T_1 = \pm 15\%$ with a minimum of ± 0.6 mm thicknesses, tolerances and conventional masses per unit 1127:1980 = $\pm 12.5\%$ with a minimum of ± 0.4 mm length of stainless steel tubes. https://standards.itch.ai/catalog/standards/sitf3 $\pm 0.7\pm 0.6\%$ with a minimum of ± 0.2 mm 2c9495aab01d/iso-1127-1980 $T_4 = \pm 7.5\%$ with a minimum of ± 0.15 mm

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

The tolerances on thickness include eccentricity.

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

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 stell 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.

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steel
stainless
austenitic
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Table 1

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10,2	1		0,230	0,270	0,344	0,410															<u></u>	
	12		0,275		0,416	0,500																
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		14	0,326		0,496	0,601											-					
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	25		0,601	0,715	0,937	1,15		1,46			tan		e									
		25,4		0,727	0,953	1,17		1,48			daı		h									
26,9			0,649		1,01	1,25		1,58	1,75	1,90	rds	2,29							_			
		8			1,14	1,40					.ite	(!	5									
	31,8			0,920	1,21	1,49		1,90		2,29	h.a	2,78	Γ									
	33			0,925		1,50				2c	ui/c	a	A									_
33,7			0,818	0,976	1,29	1,58	1,81	2,02		2,46	ata	n	3,29									
		ж		1,02		1,65				95		10	N	·								
	8			1,11	1,46	1,81		2,30		5' <mark>8</mark>	ISC g/s	18	D									
	40			1,17	1,54			2,44		50 1	<u>) 1</u> tar	l										
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		44,5				2,13		2,73	3,02	iso	.7:1 rds	5	R	Ş							-	
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!		82,5			 	4,03				6,35	-4		Π			+						
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	101,6					4,98			7,17		1-a	9,77	V		13,5			18,8				
114,3					4,52	5,62		7,27	8,09		86'6 19(12,4			12,1			23,2			
139,7					5,53	6,89		8.92		11,0)9-	13,6		16,8		21,0	23,5			32,5		
168,3					6,68	8,32		10,8		13,2		16,4	18,5	20,4		0.00	28,6	4			43,3	
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273.0						0,5				25.7	2 1	5°'2	35.0	0.00		P V	56.3			984		
355.6								22.9		28.2		35.2	6.25	43.8			~~~~			_	91.9	
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457										36,3		45,4		56,5					•	112		139 157
208 208										40,4	45,5			62,9	70,4					┝	137 1	
610										48,6		60,7			84,8	96,2					187	
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1 016	-				_	_	_	-		_				_								

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

	Outside dia	Outside diameter, mm; series	series 3	1.0	1.2	1 1,6 1	2,0	2,3	2,6	2,9 3	8,2 3,2	nasses pe 1,6 4,		m, 	5,6	6,3	1,7	8,0	8,8	10,0	11,0	12,5	14,2
	-		,					T			$\left \right $												
		ه م		0.170	0.198																		
		, u		0.219	0,256																		
	10.2	2		0.224	0,262	0,334	0,398													_			
	4'0	12		0,267		0,404	0,486																
	13.5			0,303	0,359	0,463	0,558	0,625	_	0,747										+			
			14	0,316		0,482	0,583																
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		16		0,364	0,431	0,559	0,681																
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	17,2			0,394		0,607	0,739	0,832			1,08				_							+	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	5		18	0,413		0,637	0,777								-								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		19		0,437	0,519	0,677	0,825				ht												
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		8		0,462	0,548	0,715	0,875			_	tp										-		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	21.3			0,493		0,765	826'0		1,18														
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			8	0,510			0,971				sta			Г /									
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		25		0,583	0,693	606'0	1,11		1,42		nd												
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			25,4		0,705	0,925	1,13		1,44		arc			h								-	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	26.9			0,629		0,983	1,21		1,54				23	6									
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $,		44.5				2,07		2,65		rds iso	27:1	S	D									
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	48.3					1,81	2,25		2,89			3,90	.1	5,26									
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	60,3			.		2,29	2,84	3,24	3,64	4,05			<u>ิ</u> ล		7,44							-	
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