DIN 2391-81 Part I SEAMLESS PRECISION STEEL TUBES

1. Field of application

This Standard applies to seamless precision steel tubes; and, in compliance with ISO/DIS 3304, those tube dimensions have been selected from the range of manufactura le tu e dimensions which are mainly used as design elements.

If tubes having the tolerances and are produced according to the technical conditions of delivery as specified in this Standard are to e used as pipelines, then the dimensions specified in DIN 2448 may from time to time be used. These tubes must be ordered according to quality grade C.

		Chemical co	mposition								
Grade	Mfg. Process		Si	Mn	P	S	Ni	Cr	Мо	Others	1) 2) 3) 4)
St30Si	s	0.10Max	0.30Max	≤0.55	0.040Max	0.040Max	-	-	-	-	1) 2) 3) 4)
St30A1	s	0.10Max	0.05Max	≤0.55	0.040Max	0.040Max	-	-	-	Al deoxydized	1) 2 3 4
St35	S	0.17Max	0.35Max	≥0.40	0.050Max	0.050Max	-	-	-	-	① ② ③ ④
St45	S	0.21Max	0.35Max	≥0.40	0.050Max	0.050Max	-	-	-		1) 2) 3) 4)

									1	
C+E2	c	0.22May	O FEMov	>1 (0	O OFOMov	O OFOMov			2	1
St52	5	U.ZZIVIAX	0.55Max	≈ 1.6U	0.050Max	0.050Max	-	-	3	
									4	

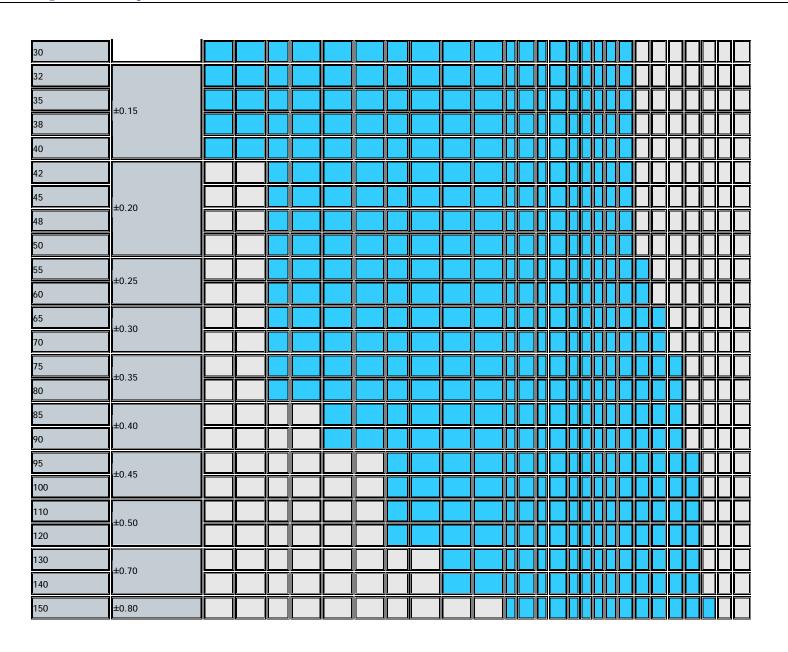
①Cold-finished/hard ②Cold-finished/soft ③Annealed ④Normalized

Grade	Material number	Tensile Test MPa	or N/mm ²	Remarks (Similar to JIS)
Grade	wateriai fluffibei	Min Yield point	Tensile Strength	Remarks (Similar to 313)
		-	400Min	
CLOOC:	1.0211	-	355Min	(CTVM11)
St30Si	1.0211	-	285Min	(STKM11)
		215	295~420	
		-	400Min	
C+20AI	1.0212	-	355Min	(STKM11)
SISUAI	1.0212	-	285Min	(STRIVITI)
		215	295~420	
		-	440Min	
C+2E	1.0308	-	370Min	(STC38)
St35	1.0306	-	315Min	(31036)
		235	340~470	
		-	540Min	
C+4E	1.0408	-	470Min	(STKM13)
5t45	1.0406	-	390Min	(310013)
		255	440~570	
St52	1.0580	-	590Min	(STKM19)
		-	540Min	
		-	490Min	



Welded Steel Tubing and Pipe- Corresponding to DIN 2391-1

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Wall thickness	Nominal dimension	0.5	0.8	1	1.2	1.5	1.8	2	2.2	2.5	2.8	3	4.5	5	5.5	6 7	8	9	10	12	14	16	18	20 2	22	25
s	Permissible deviation																									
Outside diameter of	da																									
Nominal dimension	Permissible deviation																									
4 5 6 7 8 9	±0.1																									
12 14 15 16 18 20 22 25	±0.08																									
28																										



160																						
170	±0.90																					
180	±0.90																					
190	±1.0																					
200																						
220	±1.20																					
240	11.20																					
260	±1.30																					
1) For outside diam	1) For outside diameters of nominal dimensions 4 and 5 mm, the permissible deviation from the nominal dimension								s/D			s/D			1	s/D						
s of the wall thickn	s of the wall thickness is \pm 20 % For outside diameters of nominal dimensions 6 to 8 mm, the permissible deviation									=1/60			=1/40			=1.	=1/20					
from the nominal of	from the nominal dimension s of the wall thickness is ±15%.																					