

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 manufacturing tube 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 be 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.

Grade	Mfg. Process	Chemical composition								
		C	Si	Mn	P	S	Ni	Cr	Mo	Others
		①	②	③	④	⑤	⑥	⑦	⑧	⑨
		⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
		⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗
		㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱
St30Si	S	0.10Max	0.30Max	≤0.55	0.040Max	0.040Max	-	-	-	-
St30A1	S	0.10Max	0.05Max	≤0.55	0.040Max	0.040Max	-	-	-	Al deoxydized
St35	S	0.17Max	0.35Max	≥0.40	0.050Max	0.050Max	-	-	-	-
St45	S	0.21Max	0.35Max	≥0.40	0.050Max	0.050Max	-	-	-	-

St52	S	0.22Max	0.55Max	≥1.60	0.050Max	0.050Max	-	-	-	-	①
											②
											③
											④

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

Grade	Material number	Tensile Test MPa or N/mm ²		Remarks (Similar to JIS)
		Min Yield point	Tensile Strength	
St30Si	1.0211	-	400Min	(STKM11)
		-	355Min	
		-	285Min	
		215	295~420	
St30Al	1.0212	-	400Min	(STKM11)
		-	355Min	
		-	285Min	
		215	295~420	
St35	1.0308	-	440Min	(STC38)
		-	370Min	
		-	315Min	
		235	340~470	
St45	1.0408	-	540Min	(STKM13)
		-	470Min	
		-	390Min	
		255	440~570	
St52	1.0580	-	590Min	(STKM19)
		-	540Min	
		-	490Min	

		350	490~630	
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Welded Steel Tubing and Pipe- Corresponding to DIN 2391-1

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