Tab.1 Seamless precision steel tubes - Dimensions and Tolerances - TMK-ARTROM

WT		1.5	1.6	2	2.2	2.5	2.8	3	3.5	4	4.5	5	5.5	6	7	8	9	10	12	14	16	18	20	22	25	28	30
OD		Length min-max (m)																									
nom	toler																										
16	+/- 0.08	5-12	5-12	5-12	5-12	5-12	5-12	5-12																			
18	+/- 0.08	5.5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12																	
20	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12													
22	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12													
25	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12											
26	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12											
28	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12											
30	+/- 0.08			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12									
32	+/- 0.15			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12									
35	+/- 0.15			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12									
38	+/- 0.15			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12								
40	+/- 0.15			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-11.5								
42	+/- 0.20			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-11	5-11	5-11	5-11	5-10								
45	+/- 0.20			5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12								
48	+/- 0.20					5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-9.5	5-10.5	5-11.5	5-11.5	5-10.5								
50	+/- 0.20					5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-8.5	5-10.5	5-11	5-11	5-10	5-10							
51	+/- 0.20					5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-8.5	5-10.5	5-11	5-11	5-9.5	5-10							
55	+/- 0.25							5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-9.5	5-9	5-10	5-11	5-9.5	5-9.5							
60	+/- 0.25							5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-8.5	5-8.5	5-8.5	5-12	5-12	5-8							
65	+/- 0.30									5-11.5	5-11	5-11.5	5-11	5-10.5	5-8.5	5-9	5-8.5	5-12	5-12	5-12							
70	+/- 0.30									5-12	5-12	5-10	5-12	5-12	5-8.5	5-8.5	5-8.5	5-12	5-12	5-12							
75	+/- 0.35									5-11.5	5-11.5	5-11	5-11	5-11	5-8.5	5-8	5-8.5	5-12	5-12	5-12							
80	+/- 0.35									5-11.5	5-11.5	5-10	5-9	5-10.5	5-12	5-12	5-12	5-12	5-12	5-12	5-12						
85	+/- 0.40									5-11	5-10.5	5-9.5	5-9.5	5-10	5-9.5	5-12	5-12	5-12	5-12	5-12	5-12						
90	+/- 0.40									5-11	5-11	5-9.5	5-10.5	5-10	5-12	5-12	5-12	5-12	5-12	5-12	5-12						
95	+/- 0.45									5-11	5-11	5-9.5	5-10.5	5-10	5-12	5-12	5-12	5-12	5-12	5-12	5-12						
100	+/- 0.45											5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-11.7	5-11.6						
110	+/- 0.50											5-12	5-11.8	5-10.8	5-11.4	5-12	5-12	5-12	5-11.6	5-11.4	5-11.2	5-11					
120	+/- 0.50														5-12	5-12	5-12	5-12	5-11.6	5-11.4	5-11.3	5-11.2					
130	+/- 0.70														5-12	5-12	5-12	5-11.8	6-11.5	6-11	6-10.6	6-10.3					
140	+/- 0.70														8-12	8-12	8-12	8-12	7.5-11-8	7.5-11.2	7-11	6.5-10.2	6.5-10	6.5-9.5	6.5-9.5	6-9.2	6-9
145	+/- 0.70														8-12	8-12	8-12	8-12	7.5-12	7.5-11.5	7-11	7-11	7-11	7-10.5	6.5-10	6-9.7	6-9.5
150	+/- 0.80															8-12	8-12	8-12	7.5-11.5	7.2-11.1	7-10.9	7-10.5	7-10.1	6.5-9.8	6.5-9.5	6-9.1	6-9
155	+/- 0.80															8-12	8-12	8-12	7.5-11.5	7.2-11.1	7-11	7-10.8	7-10.5	6.5-10.2	6.5-9.6	6-9.4	6-9.2
160	+/- 0.80																	9-12	8.5-12	8-12	8-12	7.5-11.5	7.2-11.3	7-11	6.5-10.5	6.5-10.1	6.4-10
165	+/- 0.80																	8-12	7.5-11.5	7-11	7-10.8	7-10.4	6.5-10	6.5-9.8	6-9.5	6-9.2	6-9
170	+/- 0.90																	9-12	8.5-12	8-12	7.5-11.8	7.5-11.3	7-10.8	7-10.5	6.5-10.1	6.5-9.8	6.2-9.5
175	+/- 0.90																	8-12	7.5-11.5	7-10.9	7-10.3	6.5-10	6.5-9.6	6-9.4	6-9.1	6-8.9	6-8.8
180	+/- 0.90																	9-12	9-12	8.5-12	8.5-12	8-12	7.5-11.5	7.5-11.3	7.2-11	7-10.7	7-10.4
185	+/- 0.90																	9-12	9-12	8.5-12	8-12	7.5-11.5	7.5-11.1	7-10.7	7-10.3	7-9.9	6.5-9.8
190	+/- 1.00																	9-12	8-12	8-11.2	7-10.6	6.5-10.2	6.5-9.9	6.5-9.6	6-9.3	6-9	5.8-8.9
195	+/- 1.00																	9-12	9-12	8.5-12	8-12	7.5-11.5	7-11	6.8-10.6	6.5-10.2	6.5-9.8	6.2-9.7
200	+/- 1.00																	8.5-12	8-11.9	7.5-11.1	7-10.5	6.5-10.2	6.5-9.8	6.5-9.5	6-9.2	6-9	6-8.8
205	+/- 1.00																	8.5-12	8-12	7.5-11.5	7-11	7-10.5	6.5-10.2	6.5-9.8	6-9.5	6-9.2	6-9
210	+/- 1.00																			6.5-10	6-9.6	6-9.2	6-9	6-8.8	5.5-8.5	5.5-8.4	5.5-8.3
215	+/- 1.00																			6.5-10	6-9.5	6-9.2	6-9	6-8.8	5.5-8.5	5.5-8.4	5.5-8.2
220	+/- 1.00																						5.5-8.2	5.2-8	5.2-7.9	5-7.8	5-7.6

P1 and HC1 Category - one cold drawing

P2 and H2 Category-one cold rolling

P3 Category - two cold drawings

P4 Category - one cold rolling and one cold drawing

P5 Category - two cold rollings