

Tab. 4.1 Cost categories for mechanical tubes performed in Workshop no. 3 Cold Rolling and Drawing

WT	1.6	1.8	2	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5	14.2	16	17.5	19.5	20	22.2	25	28	30	
OD	Length min-max (m)																												
15,88	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12																					
17,1	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12																					
19,05	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12																		
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																
21,3	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															
25	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														
25,4	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														
26,9			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													
30			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												
31,8			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											
33,7			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			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	5-12	5-12									
40			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	5-12	5-12	5-12								
42,4			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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
44,5			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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
48,3					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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
51					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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
54						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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
57						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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
60,3						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	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
63,5						5-10	5-10	5-10	5-12	5-11,5	5-12	5-11	5-10	5-8,5	5-8	5-9	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
70							5-12	5-12	5-12	5-12	5-10	5-12	5-12	5-8,5	5-8,5	5-9	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
73							5-12	5-12	5-12	5-12	5-9,5	5-12	5-12	5-8	5-8	5-8,5	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
76,1							5-10	5-10	5-11,5	5-11	5-10,5	5-11	5-10	5-8	5-8	5-8,5	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	5-12	
82,5									5-11,2	5-11,2	5-9,5	5-10,5	5-10	5-10	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	
88,9									5-11	5-11	5-9,5	5-10,5	5-9,5	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	
95									5-11	5-11	5-9,5	5-10,5	5-9,5	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	
101,6											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	5-12	5-12	
108												5-11,2	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	
114,3													5-10,4	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	
121														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	
127														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	
133														5-11,9	5-11,9	5-12	5-11,7	5,5-11,5	5,5-11,3	5,5-10,9	6-10,5	6-10,2	6-10	6-10	7-10,8	7-10,8	7-10,8	7-10,8	
139,7														8-12	8-12	8-12	8-12	7,5-11,8	7,4-11,7	7,5-11,2	7-11	6,5-10,1	6-10,1	6,5-10	6,4-9,4	6,5-9,5	6-9,2	6-9	
146														7,8-12	8-12	8-12	8-12	7,5-12	7,5-11,7	7,3-11,3	7-10,9	7-10,9	7-10,9	7-10,9	7-10,8	7-10,3	6,3-10	6-9,6	6-9,3
152,4															8-12	8-12	8-12	7,7-11,8	7,5-11,5	7,2-11	7-11	7-10,7	7-10,2	7-10,2	6,5-10	6,5-9,5	6-9,2	6-9,1	
159																	9-12	8,3-12	8,3-12	8-12	8-12	7,5-11,5	7,2-11,4	7,2-11,3	7-11	6,5-10,5	6,5-10,1	6,4-10	
160																	9-12	8,3-12	8,3-12	8-12	8-12	7,5-11,5	7,2-11,4	7,2-11,3	7-11	6,5-10,5	6,5-10,1	6,4-10	
165,1																	8-12	7,5-11,7	7,3-11,3	7-11	7-10,8	7-10,4	6,5-10	6,4-9,9	6,3-9,7	6-9,5	6-9,2	6-9	
168,3																	9-12	8,7-12	8,5-12	8-12	7,5-11,8	7,5-11,3	7-10,8	7-10,8	7-10,5	6,5-10,1	6,5-9,8	6,2-9,5	
177,8																	9-12	9-12	9-12	8,5-12	8,5-12	8-12	7,5-11,5	7,5-11,5	7,5-11,3	7,2-11	7-10,7	7-10,4	
193,7																	9-12	9-12	9-12	8,5-12	8-12	7,5-11,5	7-11	7,11	6,8-10,6	6,5-10,2	6,5-9,8	6,2-9,7	
203																	8,5-12	8,3-12	8-12	7,5-11,5	7-11	7-10,6	6,5-10,2	6,5-10,2	6,5-9,9	6-9,5	6-9,3	6-9,1	
210																				6,5-10	6-9,6	6-9,2	6-9	6-9	6-8,8	5,5-8,5	5,5-8,4	5,5-8,3	
219,1																									5,5-8,2	5,2-8	5,2-7,9	5-7,8	5-7,6
244,5																										5,2-8	5,2-7,9	5-7,8	5-7,6

MC1 Category - one cold drawing or one cold rollings

MC2 Category - two cold drawings

MC3 Category - two cold rollings