

## FEASIBILITY CHART FOR WELDED COLD DRAWN TUBES FOR MECHANICAL APPLICATION

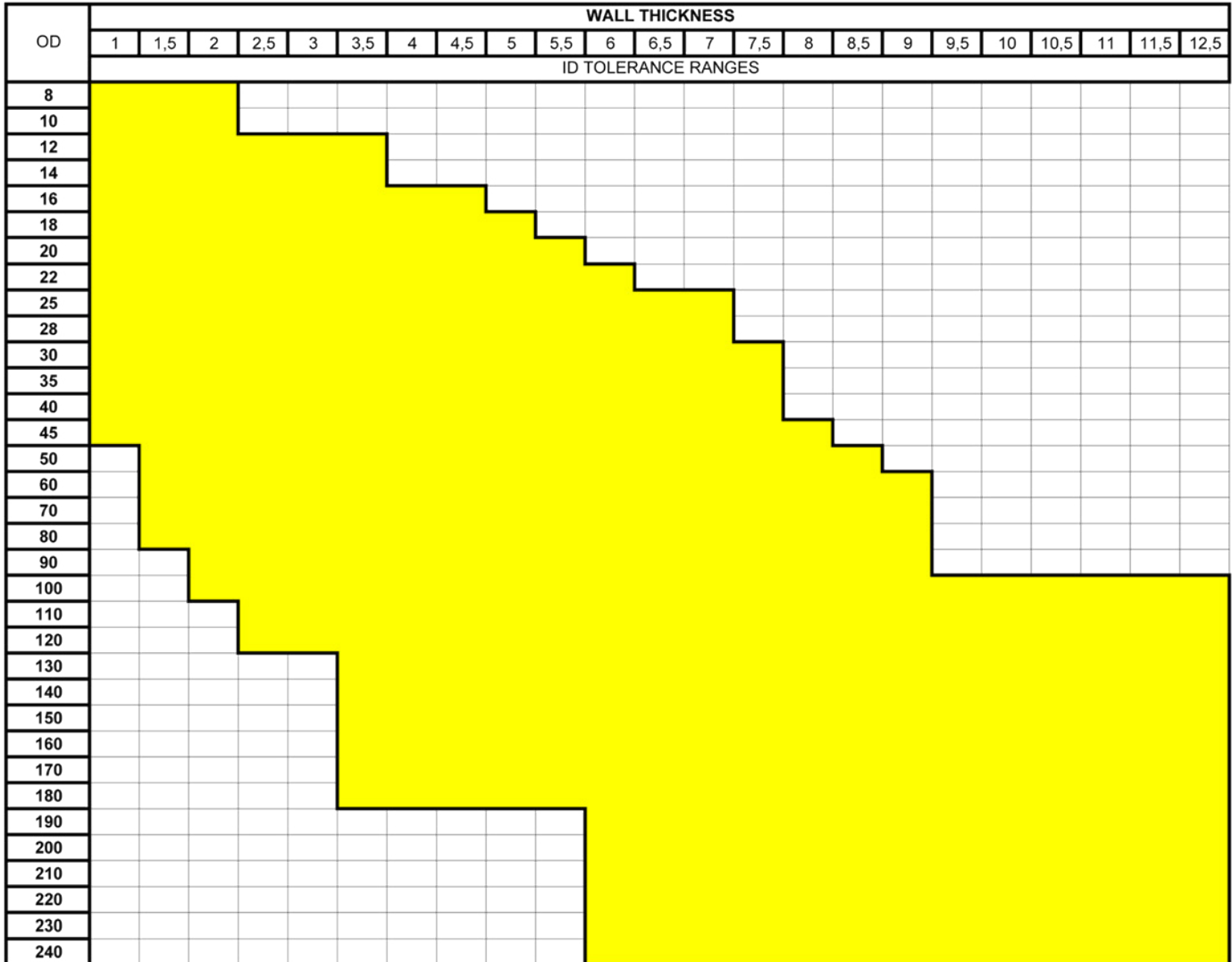


Table (1) for tubes with required delivery condition +C e +LC; for tubes with delivery condition +A, +SR e +N, the tolerance ranges noted in the table must be multiplied by the numbers noted in the following table (2)


Ratio WT/OD	Fattore per cui deve essere moltiplicata la tolleranza riportata nella tabella sopra
$\geq 0,05$	1
$0,025 \leq \text{WT/OD} \leq 0,05$	1,5
$\leq 0,025$	2

Table (2)

WT: wall thickness  
OD: outside diameter

**FEASIBILITY CHART FOR WELDED COLD DRAWN TUBES  
FOR CYLINDERS READY TO USE**

OD	WALL THICKNESS																			
	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	10	10,5	11	11,5	12
30	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
40	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
50	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
60	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
70	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
80	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
90	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
100	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
110	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
120	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
130	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
140	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
150	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
160	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
170	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
180	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
190	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
200	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

 Pneumatic cylinders H10

 Oil pressure cylinders H9

according with the standard: **EN 10305-2**

steel grade: **E355**

delivery condition: **+C**

ID tolerance range: according with ISO H

roughness on the ID: **Ra < 0,8 µm**

mechanical properties: Rm > 640 N/mm<sup>2</sup>; Rs > 512 N/mm<sup>2</sup>; Ap5 > 4%

tests: visual, dimensional, mechanical test and chemical analysis, ultrasound check 100%

**FEASIBILITY CHART FOR WELDED COLD DRAWN TUBES  
FOR CYLINDERS FIT TO BE SKIVED**

OD	WALL THICKNESS																	
	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	10	10,5	11	11,5	12	12,5	13
40	✓	✓	✓															
50	✓	✓	✓	✓														
60	✓	✓	✓	✓	✓													
70	✓	✓	✓	✓	✓	✓												
80	✓	✓	✓	✓	✓	✓	✓											
90	✓	✓	✓	✓	✓	✓	✓	✓										
100	✓	✓	✓	✓	✓	✓	✓	✓	✓									
110	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
120	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
130	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
140	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
160	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
170																		
180																		
190																		
200																		
210																		
220																		

according with the standard: **EN 10305-2**

steel grade: **E355**

delivery condition: **+SR**

ID tolerance range: -0,30 / -0,60 mm oppure -0,10 / -0,30 mm

mechanical properties: Rm > 580 N/mm<sup>2</sup>; Rs > 520 N/mm<sup>2</sup>; Ap5 > 15%

tests: visual, dimensional, mechanical test and chemical analysis, ultrasound check 100%

FEASIBILITY CHART FOR WELDED / SEAMLESS COLD DRAWN TUBES FINISHED INSIDE H8

OD	WALL THICKNESS																							
	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	10	10,5	11	11,5	12	12,5	13	15	17,5	20	22,5	25	
35	✓	✓	✓																					
40	✓	✓	✓																					
50	✓	✓	✓	✓																				
60	✓	✓	✓	✓	✓																			
70	✓	✓	✓	✓	✓	✓																		
80	✓	✓	✓	✓	✓	✓	✓																	
90	✓	✓	✓	✓	✓	✓	✓	✓																
100	✓	✓	✓	✓	✓	✓	✓	✓	✓															
110	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
120	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓													
130	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓												
140	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓											
150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓										
160	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
170	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
180	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
190	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
205	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
210	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
215	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
220	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
225	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
230	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
235	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
240	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
245	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
270	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
280	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

according with the standard: EN 10305-2 / 1

steel grade: E355

delivery condition: +SR

ID tolerance H8

mechanical properties: Rm > 580 N/mm<sup>2</sup>; Rs > 520 N/mm<sup>2</sup>; Ap5 > 15%

Ra= max 0,25 my , Rt max 1,6 my

tests: visual, dimensional, mechanical test and chemical analysis, ultrasound check 100%