

Seamless precision steel tubes - EN 10305/DIN 2391

Application: motor-car construction, pneumatic and hydraulic operating mechanisms

Pipe dimensions and weight

Wall thickness, mm (normal size)	3.5	4	4.5	5	5.5	6	7	8	9	10	12	14	16	18	
Outside diameter															
Normal size	Inside diameter (normal size and limit deviations)														
Limit deviations															
50	±0.20	43 ±0.20	42 ±0.20	-	-	-	-	-	-	-	-	-	-	-	-
55	±0.25	48 ±0.25	47 ±0.25	46 ±0.25	-	-	-	-	-	-	-	-	-	-	-
60		53 ±0.25	52 ±0.25	51 ±0.25	50 ±0.25	49 ±0.25	48 ±0.25	46 ±0.25	44 ±0.25	-	-	-	-	-	-
65	±0.30	58 ±0.30	57 ±0.30	56 ±0.30	55 ±0.30	54 ±0.30	53 ±0.30	51 ±0.30	49 ±0.30	-	-	-	-	-	-
70		63 ±0.30	62 ±0.30	61 ±0.30	60 ±0.30	59 ±0.30	58 ±0.30	56 ±0.30	54 ±0.30	-	-	-	-	-	-
75	±0.35	68 ±0.35	67 ±0.35	66 ±0.35	65 ±0.35	64 ±0.35	63 ±0.35	61 ±0.35	59 ±0.35	-	-	-	-	-	-
80		73 ±0.35	72 ±0.35	71 ±0.35	70 ±0.35	69 ±0.35	68 ±0.35	66 ±0.35	64 ±0.35	62 ±0.35	60 ±0.35	56 ±0.35	52 ±0.35	48 ±0.35	-
85	±0.40	78 ±0.40	77 ±0.40	76 ±0.40	75 ±0.40	74 ±0.40	73 ±0.40	71 ±0.40	69 ±0.40	67 ±0.40	65 ±0.40	61 ±0.40	57 ±0.40	53 ±0.40	-
90		83 ±0.40	82 ±0.40	81 ±0.40	80 ±0.40	79 ±0.40	78 ±0.40	76 ±0.40	74 ±0.40	72 ±0.40	70 ±0.40	66 ±0.40	62 ±0.40	58 ±0.40	-
95	±0.45	-	87 ±0.45	86 ±0.45	85 ±0.45	84 ±0.45	83 ±0.45	81 ±0.45	79 ±0.45	77 ±0.45	75 ±0.45	71 ±0.45	67 ±0.45	63 ±0.45	59
100		-	92 ±0.45	91 ±0.45	90 ±0.45	89 ±0.45	88 ±0.45	86 ±0.45	84 ±0.45	82 ±0.45	80 ±0.45	76 ±0.45	72 ±0.45	68 ±0.45	64
110	±0.50	-	102 ±0.50	101 ±0.50	100 ±0.50	99 ±0.50	98 ±0.50	96 ±0.50	94 ±0.50	92 ±0.50	90 ±0.50	86 ±0.50	82 ±0.50	78 ±0.50	74
120		-	112 ±0.50	111 ±0.50	110 ±0.50	109 ±0.50	108 ±0.50	106 ±0.50	104 ±0.50	102 ±0.50	100 ±0.50	96 ±0.50	92 ±0.50	88 ±0.50	84
130	±0.70	-	122 ±0.70	121 ±0.70	120 ±0.70	119 ±0.70	118 ±0.70	116 ±0.70	114 ±0.70	112 ±0.70	110 ±0.70	106 ±0.70	102 ±0.70	98 ±0.70	94
140		-	132 ±0.70	131 ±0.70	130 ±0.70	129 ±0.70	128 ±0.70	126 ±0.70	124 ±0.70	122 ±0.70	120 ±0.70	116 ±0.70	112 ±0.70	108 ±0.70	104

Tolerances

Permissible deviations for the diameter of heat-treated tubes

Wall thickness	Permissible deviations for diameter
0.05 D and above	±0.15 as specified in table of pipe dimensions and weight
above 0.05 D up to 0.025 D	1.5 times the values in table of pipe dimensions and weight
above 0.025 D	2 times the values in table of pipe dimensions and weight

The limit for wall thickness deviation ±10%

Lengths supplied

- random length from 4 up to 10.5 meters

Mechanical properties of steel

Steel grade	Cold finished +C		Cold finished +LC		Cold finished and stress-relieved +Sr			+A		Normalized +N		
	Min tensile strength, N/mm ²	Min elongation	Min tensile strength, N/mm ²	Min elongation	Min tensile strength, N/mm ²	Min yield strength, N/mm ²	Min. elongation	Min tensile strength, N/mm ²	Min. elongation	Tensile strength, N/mm ²	Min yield strength, N/mm ²	Min. elongation
E215	430	8	380	12	380	280	16	280	30	290 to 420	215	30
E235	480	6	420	10	420	315	14	315	25	340 to 470	235	25
E255	580	5	520	8	520	375	12	390	21	440 to 570	255	21
E355	640	4	580	7	580	420	10	490	22	490 to 630	355	22

Protection

Pipes are supplied:

- black and bare

Marking

Pipes are supplied with marking according to standard and customer request.

Marking is paint and/or die stenciled on the ends of pipes. The same data, as well as additional information per customer's request, is indicated on the bundle's tags.

Delivery

Pipes are supplied in round bundles tied in at least five places with steel Weight of bundle - up to 5000 kg upon request of customer. Each bundle is furnished with three tags.

Mill test certificate

MTS is issued in accordance with EN 10204

