

Mechanical Properties

Mechanical properties of tubes in the as delivered condition at room temperature, for wall thicknesses not exceeding 65mm.

STEEL GRADE		UPPER YIELD STRESS R FOR WALL THICKNESSES IN MPA (MIN)			TENSILE STRENGTH RM (MPA MIN)	ELONGATION % (MIN)	
Steel Name	Steel Number	Up to 16	Over 16/up to 40	Over 40/up to 65		Longitudinal	Transverse
E355	1.058	355	345	335	490	20	18

Tolerances

Outside Diameter D (mm)	D ≤ 219.1	+/- 1% or 0.5mm Whichever is the greater		
	D > 219.1	+/- 1%		
Wall Thickness Wt (mm)		Wt/D ratio		
		≤ 0.025	> 0.025 ≤ 0.050	> 0.050
	D ≤ 219.1	+/- 12.5% or 0.4mm Whichever is the greater		
	D > 219.1	+/- 20%	+/- 15%	+/- 12.5%

Specifications

EN 10297-1

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
50.8	6.3
50.8	8.0
50.8	9.5
50.8	12.5
57.1	4.0
57.1	6.3
57.1	9.5
57.1	12.5
60.3	4.5
60.3	5.0
60.3	6.3
60.3	8.0
60.3	9.5
60.3	12.5
50.8	9.5
50.8	12.5
63.5	6.3
63.5	8.0
63.5	9.5
63.5	12.5
63.5	16.0
69.9	6.3
69.9	9.5
69.9	12.5
69.9	16.0
76.1	4.5
76.1	5.6

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
76.1	6.3
76.1	8.0
76.1	9.5
76.1	12.5
76.1	16.0
76.1	19.0
82.5	6.3
82.5	9.5
82.5	15.5
82.5	16.0
82.5	19.0
88.9	4.0
88.9	4.5
88.9	5.0
88.9	8.6
88.9	6.3
88.9	8.0
88.9	9.5
88.9	12.5
88.9	16.0
88.9	19.0
95.2	6.3
95.2	9.5
95.2	12.5
95.2	16.0
95.2	19.0
101.6	4.0
101.6	5.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
101.6	6.3
101.6	8.0
101.6	9.5
101.6	12.5
101.6	16.0
101.6	19.0
101.6	25.0
108.0	6.3
108.0	9.5
108.0	12.5
108.0	16.0
180.0	19.0
114.3	4.5
114.3	5.6
114.3	6.3
114.3	8.0
114.3	9.5
114.3	12.5
114.3	16.0
114.3	19.0
114.3	25.4
120.6	8.0
120.6	9.5
120.6	12.5
120.6	19.0
120.6	25.4
120.6	32.0
127.0	5.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
127.0	6.3
127.0	9.5
127.0	12.5
127.0	16.0
127.0	19.0
127.0	25.0
133.0	6.3
133.0	9.5
133.0	12.5
133.0	19.0
133.0	25.0
139.7	5.6
139.7	6.3
139.7	8.0
139.7	9.5
139.7	12.5
139.7	19.0
139.7	25.0
139.7	30.0
139.7	35.0
139.7	40.0
146.0	9.5
146.0	12.5
52.4	6.3
152.4	9.5
152.4	11.1
152.4	12.5
152.4	16.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
152.4	19.0
152.4	25.0
152.4	31.8
152.4	35.0
152.4	40.0
152.4	45.0
159.0	9.5
159.0	12.5
159.0	19.0
159.0	25.0
159.0	30.0
159.0	35.0
159.0	40.0
159.0	50.0
165.1	6.3
165.1	31.8
165.1	38.1
168.3	4.5
168.3	5.0
168.3	5.6
168.3	6.3
168.3	8.0
168.3	9.5
168.3	12.5
168.3	16.0
168.3	25.0
168.3	30.0
168.3	35.0
168.3	40.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
168.3	50.0
177.8	6.3
177.8	9.5
177.8	12.5
177.8	19.0
177.8	25.0
177.8	34.9
177.8	40.0
177.8	50.0
193.7	5.6
193.7	6.3
193.7	8.0
193.7	9.5
193.7	12.5
193.7	16.0
193.7	19.0
193.7	25.0
193.7	30.0
193.7	35.0
193.7	40.0
193.7	50.0
203.2	6.3
203.2	9.5
203.2	12.5
203.2	19.0
203.2	25.0
203.2	38.1
203.2	50.8

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
219.1	5.0
219.1	6.3
219.1	7.0
219.1	9.5
219.1	12.5
219.1	19.0
219.1	25.0
219.1	35.0
219.1	40.0
219.1	45.0
219.1	50.0
219.1	60.0
228.6	6.3
228.6	9.5
228.6	12.5
228.6	19.0
228.6	25.0
228.6	34.9
228.6	44.4
228.6	50.0
228.6	60.0
241.0	50.0
241.0	60.0
241.0	70.0
241.0	80.0
244.5	5.9
244.5	7.1
244.5	9.5
244.5	12.5

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
244.5	16.0
244.5	19.0
244.5	25.0
244.5	33.4
244.5	35.0
244.5	38.0
244.5	40.0
244.5	50.0
244.5	75.0
254.0	6.3
254.0	9.5
254.0	12.5
254.0	19.0
254.0	25.0
254.0	38.1
254.0	50.8
254.0	55.0
254.0	60.0
260.0	60.0
260.0	70.0
260.0	80.0
260.0	90.0
273.0	6.3
273.0	7.1
273.0	9.5
273.0	12.7
273.0	16.0
273.0	19.0
273.0	25.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
273.0	34.9
273.0	41.2
273.0	50.0
273.0	60.0
273.0	85.0
279.4	20.0
279.4	25.0
279.4	28.6
279.4	35.0
279.4	38.1
279.4	50.8
279.4	57.2
292.0	19.0
292.0	25.0
292.0	38.1
292.0	46.0
292.0	50.8
292.0	57.0
298.5	9.5
298.5	12.5
298.5	14.2
298.5	16.0
298.5	20.0
298.5	25.0
298.5	30.0
298.5	35.0
298.5	40.0
298.5	45.0
298.5	50.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
298.5	55.0
298.5	75.0
298.5	90.0
304.8	7.1
304.8	9.5
304.8	12.5
304.8	19.0
304.8	25.0
304.8	38.1
304.8	50.8
304.8	55.0
304.8	63.5
304.8	80.0
311.0	12.5
311.0	25.0
311.0	38.1
311.0	50.8
311.0	57.2
323.9	6.3
323.9	7.1
323.9	9.5
323.9	12.7
323.9	14.2
323.9	19.0
323.9	25.0
323.9	28.6
323.9	31.8
323.9	35.0
323.9	41.2

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
323.9	47.6
323.9	50.0
323.9	55.5
323.9	63.5
323.9	75.0
323.9	90.0
330.2	25.4
330.2	50.8
330.2	76.2
342.9	20.0
342.9	25.4
342.9	30.0
342.9	38.1
342.9	45.0
342.9	50.0
342.9	63.5
342.9	90.0
355.6	9.0
355.6	12.7
355.6	16.0
355.6	19.1
355.6	25.0
355.6	28.6
355.6	31.8
355.6	44.4
355.6	50.0
355.6	63.5
355.6	70.0
355.6	76.2

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
355.6	80.0
355.6	100.0
368.3	10.0
368.3	16.0
368.3	17.5
368.3	20.0
368.3	25.0
368.3	30.0
368.3	35.0
368.3	40.0
368.3	45.0
368.3	50.0
368.3	60.0
368.3	65.0
368.3	80.0
381.0	12.5
381.0	20.0
381.0	25.0
381.0	38.1
381.0	50.0
381.0	63.5
381.0	76.2
394.0	28.0
394.0	30.0
394.0	35.0
394.0	40.0
394.0	45.0
394.0	50.0
394.0	100.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
406.4	9.5
406.4	12.7
406.4	19.1
406.4	25.0
406.4	28.0
406.4	30.0
406.4	36.0
406.4	40.0
406.4	50.0
406.4	55.0
406.4	60.0
406.4	70.0
406.4	76.2
406.4	80.0
406.4	88.9
406.4	90.0
406.4	100.0
419.1	20.0
419.1	25.0
419.1	30.0
419.1	35.0
419.1	40.0
419.1	45.0
419.1	50.0
419.1	55.0
419.1	60.0
419.1	70.0
419.1	90.0
419.1	100.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
431.8	12.7
431.8	25.0
431.8	38.1
431.8	44.4
431.8	50.8
431.8	63.5
431.8	76.2
431.8	20.0
431.8	25.0
431.8	30.0
431.8	35.0
431.8	40.0
431.8	55.0
431.8	60.0
431.8	65.0
431.8	70.0
457.2	9.5
457.2	12.7
457.2	19.1
457.2	25.0
457.2	35.0
457.2	40.0
457.2	50.0
457.2	60.0
457.2	76.1
457.2	85.0
457.2	90.0
470.0	25.0
470.0	30.0
470.0	35.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
470.0	45.0
470.0	50.0
470.0	60.0
470.0	70.0
495.0	30.0
495.0	35.0
495.0	40.0
495.0	45.0
495.0	50.0
495.0	55.0
495.0	75.0
508.0	20.0
508.0	25.0
508.0	35.0
508.0	40.0
508.0	50.0
508.0	60.0
508.0	70.0
508.0	80.0
508.0	110.0
521.0	20.0
521.0	25.0
521.0	30.0
521.0	50.0
521.0	60.0
521.0	70.0
521.0	75.0
521.0	80.0
521.0	90.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
546.0	20.0
546.0	30.0
546.0	40.0
546.0	50.0
546.0	60.0
550.0	80.0
558.8	20.0
558.8	25.0
558.8	35.0
558.8	40.0
558.8	45.0
558.8	50.0
558.8	60.0
558.8	70.0
558.8	85.0
558.8	110.0
572.0	25.0
572.0	35.0
572.0	40.0
572.0	50.0
572.0	70.0
572.0	80.0
572.0	85.0
610.0	12.7
610.0	20.0
610.0	25.0
610.0	30.0

Dimensions

OUTSIDE DIA. (MM)	WALL THICKNESS (MM)
610.0	35.0
610.0	40.0
610.0	45.0
610.0	50.0
610.0	60.0
610.0	70.0
610.0	80.0
610.0	85.0
610.0	95.0
610.0	100.0
610.0	110.0
622.0	25.0
622.0	30.0
622.0	35.0
622.0	40.0
622.0	45.0
622.0	50.0
622.0	60.0
622.0	85.0
622.0	95.0
622.0	100.0
622.0	110.0
660.0	40.0
660.0	70.0
660.0	80.0
660.0	100.0

Chemical Composition

STEEL GRADE		CHEMICAL COMPOSITION % BY MASS					
Steel Name	Steel Number	C (max)	Si (max)	Mn (max)	P (max)	S (max)	Other elements
E355*	1.058	0.22	0.55	1.6	0.030	0.035	