

Hot Finished Seamless Mechanical Steel Tube

EN 10297-1

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*	1.0580	0.22	0.55	1.60	0.030	0.035	

\*Additions of Nb, V and Ti are permitted at the discretion of the manufacturer, the content of these elements shall be reported.

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

Mechanical Properties

Steel Grade		Upper yield stress R <sub>y</sub> , for wall thicknesses, in Mpa (min)			Tensile strength R <sub>m</sub> (Mpa min)	Elongation % (min)	
Steel Name	Steel Number	Up to 16	over 16/up to 40	over 40/up to 65		longitudinal	transverse
E355	1.0580	355	345	335	490	20	18

Tolerances

Outside diameter D (mm)	D ≤ 219.1	+/- 1% or 0.5 mm 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 0.4 mm whichever is the greater		
	D > 219.1	+/- 20%	+/- 15%	+/- 12.5%



Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm
50.8	4.0	60.3	12.5	76.1	8.0	88.9	6.3	101.6	8.0	114.3	8.0	127.0	9.5
50.8	6.3			76.1	9.5	88.9	8.0	101.6	9.5	114.3	9.5	127.0	12.5
50.8	8.0	63.5	6.3	76.1	12.5	88.9	9.5	101.6	12.5	114.3	12.5	127.0	16.0
50.8	9.5	63.5	8.0	76.1	16.0	88.9	12.5	101.6	16.0	114.3	16.0	127.0	19.0
50.8	12.5	63.5	9.5	76.1	19.0	88.9	16.0	101.6	19.0	114.3	19.0	127.0	25.0
		63.5	12.5			88.9	19.0	101.6	25.0	114.3	25.4		
57.1	4.0	63.5	16.0	82.5	6.3							133.0	6.3
57.1	6.3			82.5	9.5	95.2	6.3	108.0	6.3	120.6	8.0	133.0	9.5
57.1	9.5	69.9	6.3	82.5	12.5	95.2	9.5	108.0	9.5	120.6	9.5	133.0	12.5
57.1	12.5	69.9	9.5	82.5	16.0	95.2	12.5	108.0	12.5	120.6	12.5	133.0	19.0
		69.9	12.5	82.5	19.0	95.2	16.0	108.0	16.0	120.6	19.0	133.0	25.0
60.3	4.5	69.9	16.0			95.2	19.0	108.0	19.0	120.6	25.4		
60.3	5.0			88.9	4.0					120.6	32.0	139.7	5.6
60.3	6.3	76.1	4.5	88.9	4.5	101.6	4.0	114.3	4.5			139.7	6.3
60.3	8.0	76.1	5.6	88.9	5.0	101.6	5.0	114.3	5.6	127.0	5.0	139.7	8.0
60.3	9.5	76.1	6.3	88.9	5.6	101.6	6.3	114.3	6.3	127.0	6.3	139.7	9.5

Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm	Outside Dia. mm	Wall Thickness mm
139.7	12.5	193.7	12.5	254.0	19.0	304.8	55.0	368.3	30.0	431.8	76.2	546.0	30.0
139.7	19.0	193.7	16.0	254.0	25.0	304.8	63.5	368.3	35.0	445.0	20.0	546.0	40.0
139.7	25.0	193.7	19.0	254.0	38.1	304.8	80.0	368.3	40.0	445.0	25.0	546.0	50.0
139.7	30.0	193.7	25.0	254.0	50.8			368.3	45.0	445.0	30.0	546.0	60.0
139.7	35.0	193.7	30.0	254.0	55.0	311.0	12.5	368.3	50.0	445.0	35.0		
139.7	40.0	193.7	35.0	254.0	60.0	311.0	25.0	368.3	60.0	445.0	40.0	550.0	80.0
		193.7	40.0			311.0	38.1	368.3	65.0	445.0	55.0		
146.0	9.5	193.7	50.0	260.0	60.0	311.0	50.8	368.3	80.0	445.0	60.0	558.8	20.0
146.0	12.5			260.0	70.0	311.0	57.2			445.0	65.0	558.8	25.0
		203.2	6.3	260.0	80.0			381.0	12.5	445.0	70.0	558.8	35.0
152.4	6.3	203.2	9.5	260.0	90.0	323.9	6.3	381.0	20.0			558.8	40.0
152.4	9.5	203.2	12.5			323.9	7.1	381.0	25.0	457.2	9.5	558.8	45.0
152.4	11.1	203.2	19.0	273.0	6.3	323.9	9.5	381.0	38.1	457.2	12.7	558.8	50.0
152.4	12.5	203.2	25.0	273.0	7.1	323.9	12.7	381.0	50.0	457.2	19.1	558.8	60.0
152.4	16.0	203.2	38.1	273.0	9.5	323.9	14.2	381.0	63.5	457.2	25.0	558.8	70.0
152.4	19.0	203.2	50.8	273.0	12.7	323.9	19.0	381.0	76.2	457.2	35.0	558.8	85.0
152.4	25.0			273.0	16.0	323.9	25.0			457.2	40.0	558.8	110.0
152.4	31.8	219.1	5.0	273.0	19.0	323.9	28.6	394.0	28.0	457.2	50.0		
152.4	35.0	219.1	6.3	273.0	25.0	323.9	31.8	394.0	30.0	457.2	60.0	572.0	25.0
152.4	40.0	219.1	7.0	273.0	34.9	323.9	35.0	394.0	35.0	457.2	76.1	572.0	35.0
152.4	45.0	219.1	9.5	273.0	41.2	323.9	41.2	394.0	40.0	457.2	85.0	572.0	40.0
		219.1	12.5	273.0	50.0	323.9	47.6	394.0	45.0	457.2	90.0	572.0	50.0
159.0	9.5	219.1	19.0	273.0	60.0	323.9	50.0	394.0	50.0			572.0	70.0
159.0	12.5	219.1	25.0	273.0	85.0	323.9	55.5	394.0	100.0	470.0	25.0	572.0	80.0
159.0	19.0	219.1	35.0			323.9	63.5			470.0	30.0	572.0	85.0
159.0	25.0	219.1	40.0	279.4	20.0	323.9	75.0	406.4	9.5	470.0	35.0		
159.0	30.0	219.1	45.0	279.4	25.0	323.9	90.0	406.4	12.7	470.0	45.0	610.0	12.7
159.0	35.0	219.1	50.0	279.4	28.6			406.4	19.1	470.0	50.0	610.0	20.0
159.0	40.0	219.1	60.0	279.4	35.0	330.2	25.4	406.4	25.0	470.0	60.0	610.0	25.0
159.0	50.0			279.4	38.1	330.2	50.8	406.4	28.0	470.0	70.0	610.0	30.0
		228.6	6.3	279.4	50.8	330.2	76.2	406.4	30.0			610.0	35.0
165.1	6.3	228.6	9.5	279.4	57.2			406.4	36.0	495.0	30.0	610.0	40.0
165.1	31.8	228.6	12.5			342.9	20.0	406.4	40.0	495.0	35.0	610.0	45.0
165.1	38.1	228.6	19.0	292.0	19.0	342.9	25.4	406.4	50.0	495.0	40.0	610.0	50.0
		228.6	25.0	292.0	25.0	342.9	30.0	406.4	55.0	495.0	45.0	610.0	60.0
168.3	4.5	228.6	34.9	292.0	38.1	342.9	38.1	406.4	60.0	495.0	50.0	610.0	70.0
168.3	5.0	228.6	44.4	292.0	46.0	342.9	45.0	406.4	70.0	495.0	55.0	610.0	80.0
168.3	5.6	228.6	50.0	292.0	50.8	342.9	50.0	406.4	76.2	495.0	75.0	610.0	85.0
168.3	6.3	228.6	60.0	292.0	57.0	342.9	63.5	406.4	80.0			610.0	95.0
168.3	8.0					342.9	90.0	406.4	88.9	508.0	9.5	610.0	100.0
168.3	9.5	241.0	50.0	298.5	9.5			406.4	90.0	508.0	12.5	610.0	110.0
168.3	12.5	241.0	60.0	298.5	12.5	355.6	9.0	406.4	100.0	508.0	20.0		
168.3	16.0	241.0	70.0	298.5	14.2	355.6	12.7			508.0	25.0	622.0	25.0
168.3	25.0	241.0	80.0	298.5	16.0	355.6	16.0	419.1	20.0	508.0	35.0	622.0	30.0
168.3	30.0			298.5	20.0	355.6	19.1	419.1	25.0	508.0	40.0	622.0	35.0
168.3	35.0	244.5	5.9	298.5	25.0	355.6	25.0	419.1	30.0	508.0	50.0	622.0	40.0
168.3	40.0	244.5	7.1	298.5	30.0	355.6	28.6	419.1	35.0	508.0	60.0	622.0	45.0
168.3	50.0	244.5	9.5	298.5	35.0	355.6	31.8	419.1	40.0	508.0	70.0	622.0	50.0
		244.5	12.5	298.5	40.0	355.6	38.1	419.1	45.0	508.0	80.0	622.0	60.0
177.8	6.3	244.5	16.0	298.5	45.0	355.6	44.4	419.1	50.0	508.0	110.0	622.0	85.0
177.8	9.5	244.5	19.0	298.5	50.0	355.6	50.0	419.1	55.0			622.0	95.0
177.8	12.5	244.5	25.0	298.5	55.0	355.6	63.5	419.1	60.0	521.0	20.0	622.0	100.0
177.8	19.0	244.5	33.4	298.5	75.0	355.6	70.0	419.1	70.0	521.0	25.0	622.0	110.0
177.8	25.0	244.5	35.0	298.5	90.0	355.6	76.2	419.1	90.0	521.0	30.0		
177.8	34.9	244.5	38.0			355.6	80.0	419.1	100.0	521.0	50.0	660.0	40.0
177.8	40.0	244.5	40.0	304.8	7.1	355.6	100.0			521.0	60.0	660.0	70.0
177.8	50.0	244.5	50.0	304.8	9.5			431.8	12.7	521.0	70.0	660.0	80.0
		244.5	75.0	304.8	12.5	368.3	10.0	431.8	25.0	521.0	75.0	660.0	100.0
193.7	5.6			304.8	19.0	368.3	16.0	431.8	38.1	521.0	80.0		
193.7	6.3	254.0	6.3	304.8	25.0	368.3	17.5	431.8	44.4	521.0	90.0		
193.7	8.0	254.0	9.5	304.8	38.1	368.3	20.0	431.8	50.8				
193.7	9.5	254.0	12.5	304.8	50.8	368.3	25.0	431.8	63.5	546.0	20.0		