

## ASTM SPECIFICATION & TOLERANCE FOR TUBING & PIPING

Specification	Allowable Outside Diameter Variation in mm			Allowable Wall Thickness Variation		Exact Length Tolerance in mm		Testing	
ASTM-A213 Seamless Boiler Superheater and Heat Exchanger Tubes	Nominal Diameter	Over	Under	%Over	%Under	Over	Under	Flattening Test Tension Test Flare Test Hardness Test 100% Hydrostatic test Refer to ASTM A-450	
	Under 25.4	.1016	.1016	+20	-0	3.175	0		
	25.4-38.1 incl	.1524	.1524	+22	-0	3.175	0		
	38.1-50.8 excl	.2032	.2032	+22	-0	3.176	0		
	50.8-63.5 excl	.254	.254	+22	-0	4.46	0		
63.5-76.2 excl	.3048	.3048	+22	-0	4.76	0	100% Hydrostatic test		
76.2-101.6 incl	.381	.381	+22	-0	4.76	0		Refer to ASTM A-450	
ASTM-A249 Welded Boiler Superheater, Heat Exchanger And Condenser Tubes	Under 25.4	.1016	.1016	+10	-10	3.175	0	Tension Test Flattening Test Flange Test Reverse Bend Test Hardness Test 100% Hydrostatic Test Refer to ASTM A-450	
	25.4-38.1 incl	.1524	.1524	+10	-10	3.175	0		
	38.1-50.8 Excl	.2032	.2032	+10	-10	3.175	0		
	50.0-63.5 excl	.254	.254	+10	-10	4.762	0		
	63.5-76.2 excl	.3848	.3048	+10	-10	4.762	0		
76.2-101.6 incl	.381	.381	+10	-10	4.762	0	Minimum Wall tubes + 18% 0 available On request		
ASTM-A269 Seamless & Welded Tubing for General Service	Untp 12.7	.13	.13	+15	-15	3.2	0	Flare Test (Seamless Only) Flange Test (Welded Only) Hardness Test Reverse Flattening Test (Welded only) 100% Hydrostatic Test Refer to ASTM-A269	
	12.7-38.1 excl	.13	.13	+10	-10	3.2	0		
	38.1-88.9 excl	.25	.25	+10	-10	4.8	0		
	88.9-139.7 excl	.38	.38	+10	-10	4.8	0		
	139.7-203.2 excl	.76	.76	+10	-10	4.8	0		
ASTM-A270 Seamless & Welded Sanitary Tubing	25.4	.05	.20	+10.0	-10.0	3.2	0	Reverse flattening Test 100% Hydrostatic Test External' polish on all tubes Refer to ASTM A-270	
	38.1	.05	.20	+10.0	-10.0	3.2	0		
	50.8	.05	.28	+10.0	-10.0	3.2	0		
	60.5	.05	.28	+10.0	-10.0	3.2	0		
	76.2	.08	.30	+10.0	-10.0	3.2	0		
	101.6	.08	.38	+10.0	-10.0	4.8	0		
ASTM-A312 Seemless & Welded pipe	3.175-38.1 incl	.4	.79	Minimum Wall 12.5% under nominal wall Specified		6.4	0	Tension Test Flattening Test 100% Hydrostatic Test Refer to ASTM A-530	
	38.1-1016 incl	.79	.79				6.4		0
	101.6-203.2 incl	1.59	.79				6.4		0
						(Normally Random Lengths ordered)			
ASTM A-358 Welded pipe	219.08-750mm	+0.5%		-0.3		6.0		Refer to ASTM A-530	