

PIPING MATERIAL ASTM SPECIFICATION FOR PIPES AND TUBES

Specification	Allowable Outside Diameter Variation in mm			Allowable Thickness	Wall Variation	Exact Length Tolerance in mm	Testing
	Nominal Diameter	Over	Under	%Over	%Under	Over Under	Flattening Test Tension Test Flare Test Hardness Test 100% Hydrostatic test Refer to ASTM A-450
ASTM-A213	Under 25.4	0.1016	0.1016	+20	0	3.175	
Seamless Boiler	25.4-38.1 incl	0.1524	0.1524	+22	0	3.175	
Superheater and Heat Exchanger	38.1-50.8 excl	0.2032	0.2032	+22	0	3.176	
Tubes	50.8-63.5 excl	0.254	0.254	+22	0	4.46	
	63.5-76.2 excl	0.3048	0.3048	+22	0	4.76	
	76.2-101.6 incl	0.381	0.381	+22	0	4.76	
ASTM-A249	Under 25.4	0.1016	0.1016	+10	-10	3.175	Tension Test
Welded Boiler	25.4-38.1 incl	0.1524	0.1524	+10	-10	3.175	Flattening Test
Superheater, Heat Exchanger And	38.1-50.8 Excl	0.2032	0.2032	+10	-10	3.175	Flange Test
Condenser Tubes	50.0-63.5 excl	0.254	0.254	+10	-10	4.762	Reverse Bend Test
	63.5-76.2 excl	0.3848	0.3848	+10	-10	4.762	Hardness Test
	76.2-101.6 incl	0.381	0.381	+10	-10	4.762	100% Hydrostatic Test Refer to ASTM A-450
				Minimum Wall tubes + 18% 0 available On request			
ASTM-A269	Untp 12.7	0.13	0.13	+15	-15	3.2	Flare Test (Seamless Only)
Seamless & Welded Tubing for General Service	12.7-38.1 excl	0.13	0.13	+10	-10	3.2	Flange Test (Welded Only)
	38.1-88.9 excl	0.25	0.25	+10	-10	4.8	Hardness Test
	88.9-139.7 excl	0.38	0.38	+10	-10	4.8	Reverse Flattening Test
	139.7-203.2 excl	0.76	0.76	+10	-10	4.8	(Welded only)
							100% Hydrostatic Test Refer to ASTM-A269
ASTM-A270	25.4	.05	.20	+10.0	-10.0	3.2	Reverse flattening Test
	38.1	.05	.20	+10.0	-10.0	3.2	0
Seamless & Welded Sanitary Tubing	50.8	0.05	0.28	+10.0	-10.0	3.2	100% Hydrostatic Test
	60.5	0.05	0.28	+10.0	-10.0	3.2	External' polish on all tubes
	76.2	.08	.30	+10.0	-10.0	3.2	Refer to ASTM A-270
	101.6	.08	.38	+10.0	-10.0	4.8	0
ASTM-A312	3.175-38.1 incl	.4	.79	Minimum Wall 12.5% under nominal wall		6.4	Tension Test
	38.1-1016 incl	.79	.79			6.4	Flattening Test
Seemless & Welded pipe	101.6-203.2 incl	1.59	0.79	Specified		6.4	100% Hydrostatic Test Refer to ASTM A-530
						(Normally Random Lengths ordered)	
ASTM A-358	219.08-750mm	+0.5%		-0.3		6.0	Refer to ASTM A-530