

CARBON STEEL, ALLOY STEEL, LOW TEMP, PIPE & TUBES SPECIFICATION

CHEMICAL ANALYSIS									Mechanical Properties			SPECIFIC REQUIREMENT
									Tensile Strength	Yield Strength	Elongation	
Specification	WT	C%	Mn%	P% MAX	S% MAX	Si%	Cr%	Mo%	Mpa	Mpa	50mm MIN Longitudinal	
ASTM A 53/A	AW	0.25MAX	0.95MAX 1.20MAX	0.050	0.060	-	-	-	331MIN	207 MIN	36	Cr Mo Cu Ni Va 0.40 0.15 0.40 0.40 0.08 five elements not to exceed 1%
ASTM A 53/B	AW	0.30MAX	0.27- 0.93	0.050	0.060	-	-	-	413MIN	240MIN	29.5	
ASTM A 106/A	AW	0.25MAX	0.29- 1.06	0.025	0.025	0.10MIN	0.40MAX	0.15MAX	330MIN	205MIN	35/28	
ASTM A 106/B	AW	0.30MAX	0.29- 1.06	0.025	0.025	0.10MIN	0.40MAX	0.15MAX	415MIN	240MIN	30/22	
ASTM A 106/C	AW	0.35MAX	0.29- 1.06	0.025	0.025	0.10MIN	0.40MAX	0.15MAX	485MIN	275MIN	30/22	
ASTM A 179	MW	0.06-018	0.27- 0.63	0.048	0.048	-	-	-	325MIN	180MIN	35.0	Hardness 72 HRB MAX
ASTM A 214	MW	0.18MAX	0.27- 0.63	0.050	0.050	0.25MAX	-	-	385MIN	180MIN	35.0	Hardness 72 HRB MAX
ASTM A 192	MW	0.06-0.18	0.27- 0.63	0.048	0.048	0.10- 0.50	-	0.44- 0.65	325MIN	180MIN	35.0	Hardness 77 HRB MAX
ASTM A 209/T1	MW	0.10-0.20	0.30- 0.80	0.045	0.045	0.10- 0.50	-	0.44- 0.65	380MIN	205MIN	30/22	Hardness 80 HRB MAX
ASTM A 209/T1a	MW	0.15-0.25	0.30- 0.80	0.045	0.045	0.10- 0.50	-	0.44- 0.65	365MIN	195MIN	30/22	Hardness 81 HRB MAX
ASTM A 209/T1B	MW	0.14MAX	0.30- 0.80	0.045	0.045	0.10- 0.50	-	0.44- 0.65	415MIN	220MIN	30/22	Hardness 81 HRB MAX
ASTM A 210/A-1	MW	0.27MAX	0.30- 0.80	0.048	0.058	0.10- 0.50	-	0.44- 0.65	415MIN	255MIN	30/22	Hardness 77 HRB MAX
ASTM A 210/C	MW	0.35MAX	0.30- 0.80	0.048	0.058	0.10MIN 0.10MIN	-	0.65	485MIN	275MIN	30/22	Hardness 79 HRB MAX
ASTM A 213/T2	MW	0.10/0.20	0.30- 0.61	0.045	0.045	0.10- 0.30	0.50-0.81	0.44- 0.65	415MIN	205MIN	30/22	Hardness 85 HRB MAX
ASTM A 213/T5	MW	0.15MAX	0.30- 0.60	0.030	0.030	0.50MAX	4.00-6.00	0.44- 0.65	415MIN	205MIN	30/22	Hardness 85 HRB MAX
ASTM A 213/T11	MW	0.15MAX	0.30- 0.60	0.030	0.030	0.50- 1.00	1.00-1.50	0.44- 0.65	415MIN	205MIN	30/22	Hardness 85 HRB MAX
ASTM A 213/T12	MW	0.15MAX	0.30- 0.60	0.045	0.045	1.00	0.80-1.25	0.44- 0.65	415MIN	220MIN	30/22	Hardness 85 HRB MAX
ASTM A 213/T22	MW	0.15MAX	0.30- 0.61 0.30- 0.60	0.030	0.030	0.50MAX 0.50MAX	1.90-2.60	0.44- 0.65 0.87- 1.13	415MIN	205MIN	30/22	Hardness 85 HRB MAX
ASTM A 333/1	AW	0.30MAX	0.40- 1.06	0.025	0.025	-	-	-	380MIN	205MIN	25/20	Impact AS-50F FOR 40X10J/18/14 -50F 40X10J/18/14 90 HRB MAX
ASTM A 333/6	AW	0.30MAX	0.29- 1.06	0.025	0.025	0.10MIN	-	-	415MIN	240MIN	30/22	
ASTM A 334/1	AW	0.30MAX	0.40- 1.06	0.025	0.025	-	-	-	380MIN	205MIN	35/28	
ASTM A 334/6	AW	0.30MAX	0.29- 1.06	0.025	0.025	0.10MIN	-	-	415MIN	240MIN	30/22	
ASTM A 335/P1	AW	0.10-0.20	0.30- 0.80	0.025	0.025	0.10- 0.50	-	0.44- 0.65	380MIN	205MIN	30/22	
ASTM A 335/P2	AW	0.10-0.20	0.30- 0.80	0.025	0.025	0.50	0.50-0.81	0.65	380MIN	205MIN	30/22	
ASTM A 335/P5	AW	0.15MAX	0.30- 0.61	0.025	0.025	0.10- 0.30	4.00-6.00	0.44- 0.65	415MIN	205MIN	30/22	
ASTM A 335/P9	AW	0.15MAX	0.30- 0.61	0.025	0.025	0.30	8.00-10.00	0.65	415MIN	172MIN	30/22	
ASTM A 335/P11	AW	0.15MAX	0.30- 0.60	0.025	0.025	0.50MAX	1.00-1.50	0.45- 0.65	415MIN	205MIN	30/22	
ASTM A 335/P12	AW	0.15MAX	0.30- 0.60	0.025	0.025	0.25- 0.50	0.80-1.25	0.65	415MIN	205MIN	50/22	

