

Carbon Steel Alloy Steel Low Temp Pipe & Tubes Specification Table

CHEMICAL ANALYSIS									Mechanical Properties			SPECIFIC REQUIREMENT
Specification	WT	C%	Mn%	P% max	S% max	Si%	Cr%	Mo%	Tensile Strength Mpa	Yield Strength Mpa	Elongation 50mm min Longitudinal	
ASTM A 53/A	AW	0.25max	0.95max	0.05	0.06	-	-	-	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	1.20max	0.05	0.06	-	-	-	413min	240min	29.5	
ASTM A 106/A	AW	0.25max	0.27-0.93	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	0.06-0.18	0.27-0.63	0.048	0.048	-	-	-	325min	180min	35	Hardness 72 HRB max
ASTM A 214	MW	0.18max	0.27-0.63	0.05	0.05	-	-	-	385min	180min	35	Hardness 72 HRB max
ASTM A 192	MW	0.06-0.18	0.27-0.63	0.048	0.048	0.25max	-	-	325min	180min	35	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 77 HRB max
ASTM A 210/A-1	MW	0.27max	0.93max	0.048	0.058	0.10min	-	-	415min	255min	30/22	Hardness 79 HRB max
ASTM A 210/C	MW	0.35max	0.29-1.06	0.048	0.058	0.10min	-	-	485min	275min	30/22	Hardness 89 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	0.03	0.03	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	0.03	0.03	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	0.30-0.61	0.045	0.045	0.50max	0.80-1.25	0.44-0.65	415min	220min	30/22	Hardness 85 HRB max
ASTM A 213/T22	MW	0.15max	0.30-0.60	0.03	0.03	0.50max	1.90-2.60	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
ASTM A 333/6	AW	0.30max	0.29-1.06	0.025	0.025	0.10min	-	-	415min	240min	30/22	FOR 40X10J/18/14
ASTM A 334/1	AW	0.30max	0.40-1.06	0.025	0.025	-	-	-	380min	205min	35/28	-50F 40X10J/18/14
ASTM A 334/6	AW	0.30max	0.29-1.06	0.025	0.025	0.10min	-	-	415min	240min	30/22	90 HRB max
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	0.30-0.61	0.025	0.025	0.10-0.30	0.50-0.81	0.44-0.65	380min	205min	30/22	
ASTM A 335/P5	AW	0.15max	0.30-0.60	0.025	0.025	0.50max	4.00-6.00	0.45-0.65	415min	205min	30/22	
ASTM A 335/P9	AW	0.15max	0.30-0.60	0.025	0.025	0.25-1.00	8.00-10.00	0.09-1.10	415min	172min	30/22	
ASTM A 335/P11	AW	0.15max	0.30-0.60	0.025	0.025	0.50-1.00	1.00-1.50	0.44-0.65	415min	205min	30/22	
ASTM A 335/P12	AW	0.15max	0.30-0.61	0.025	0.025	0.50max	0.80-1.25	0.44-0.65	415min	205min	50/22	
ASTM A 335/P22	AW	0.15max	0.30-0.60	0.025	0.025	0.50max	1.90-2.60	0.87-1.13	415min	205min	30/22	
BS/3059/1/33		0.15max	0.30-0.70	0.05	0.05	-	-	-	324-441	186min	25	
BS/3059/2/33		0.15max	0.40-0.70	0.05	0.05	0.10-0.35	-	-	324-441	186min	21	
BS/3059/2/45		0.12-0.18	0.90-1.20	0.035	0.035	0.10-0.35	-	-	441-560	245min	22	
BS/3059/2/620		0.10-0.15	0.40-0.70	0.04	0.04	0.10-0.35	0.70-1.10	0.45-0.65	441-618	235min	22	
DIN/17175/ST35.8		0.17max	0.40min	0.04	0.04	0.35max	-	-	340-441	235min	25	
DIN/17175/ST45.8		0.22max	0.45min	0.04	0.04	0.10-0.35	-	-	441-540	255min	25	
DIN/17175/15MO3		0.12-0.20	0.50-0.80	0.04	0.04	0.10-0.35	-	0.25-0.35	441-540	284min	21	
DIN/17175/13CrMO44		0.10-0.18	0.40-0.70	0.04	0.04	0.10-0.35	0.70-1.60	0.40-0.50	441-570	294min	22	
DIN/17175/10CrM910		0.15max	0.40-0.60	0.04	0.04	0.15-0.50	2.0-2.5	0.9-1.10	441-570	294min	22	
ASTM A 199/T5	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50max	4.00-6.00	0.45-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 199/T11	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50-1.00	1.00-1.50	0.44-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 199/T22	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50max	1.90-2.60	0.87-1.13	415min	170min	30/22	Hardness 85 HRB max
ASTM A 199/T4	MW	0.15max	0.30-0.60	0.03	0.03	0.50-1.00	2.15-2.85	0.44-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 199/T7	MW	0.15max	0.30-0.60	0.03	0.03	0.50-1.00	6.00-8.00	0.45-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 200/T5	MW	0.15max	0.30-0.60	0.03	0.03	0.50-1.00	4.00-6.00	0.45-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 200/T11	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50-1.00	1.00-1.50	0.44-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 200/T22	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50max	1.90-2.60	0.87-1.13	415min	170min	30/22	Hardness 85 HRB max
ASTM A 200/T4	MW	0.50-0.15	0.30-0.60	0.03	0.03	0.50-1.00	2.15-2.85	0.44-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 200/T7	MW	0.15max	0.30-0.60	0.03	0.03	0.50-1.00	6.00-8.00	0.45-0.65	415min	170min	30/22	Hardness 85 HRB max
ASTM A 199/T9	MW	0.15max	0.30-0.60	0.03	0.03	0.25-1.00	8.00-10.0	0.90-1.10	415min	170min	30/22	Hardness 85 HRB max