

SPECIFICATIONS



14

15

Specification	API 5L (PSL I / PSL II)												API 5CT			
	A25		A	B	X42	X46	X52	X56	X60	X65	X70	X80	H40	J55	K55	N80
	Class 1	Class 2														
Classification	Line pipe												Casing Tubing			
Chemical composition (%)																
Application	Line pipe												Casing Tubing			
C(Max.)	0.21	0.21	0.22	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-	-	-	-
Si(Max.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mn(Max.)	0.60	0.60	0.90	1.20	1.30	1.40	1.40	1.40	1.40	1.45	1.65	-	-	-	-	-
P(Max.)	0.030	0.080	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	-	0.030	-	-	-
S(Max.)	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	-	0.030	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tensile strength (min.)																
PSI	450,000	-	48,000	60,000	60,000	63,000	66,000	71,000	75,000	77,000	82,000	-	60000	75000	95000	10000
MPa	310	-	331	414	414	434	455	490	517	531	565	-	414	517	655	689
kgf/mm²	31.6	-	33.7	42.2	42.2	44.3	46.4	49.9	52.7	54.1	57.7	-	42.2	52.7	66.8	70.3
Yield point (min.)																
PSI	25,000	-	30,000	35,000	42,000	46,000	52,000	56,000	60,000	65,000	70,000	-	40000-80000	55000-80000	80000-110000	-
MPa	172	-	207	241	290	317	359	386	414	448	483	-	276-552	379-552	552-758	-
kgf/mm²	17.6	-	21.6	24.6	29.5	32.3	36.6	39.4	42.2	45.7	49.2	-	28.1-56.2	38.7-56.2	56.2-77.3	-
Elongation (min.) (%)	- U.S. Customary Equation $e = 625.000(A^{0.2}/U^{0.9})$ - Metric Equation $e = 1.944(A^{0.2}/U^{0.9})$												e : Minimum elongation in 50.80mm in percent rounded to nearest 0.5% A : Cross-sectional area of the tensile test specimen in sq.mm U : Specified tensile strength in N/mm ²			
Flattening	H : Distance between Flattening plates (mm) D : Outside diameter of the pipe(mm) t : Wall thickness of the pipe(mm)												- Weld ductility test $H = \frac{0.07t}{0.07+3t/D}$ (Grades less than X 52) $H = \frac{3.05t}{0.05+3t/D}$ (Grades X 52 or higher)			
Bending test	Bending angle X Inside radius (D : Outside diameter of the pipe) 90° X 12D (Nominal size 2 or below)												-			
Hydrostatic test	P : Test pressure, PSI (MPa) S : Fiber stress, PSI (MPa) t : Wall thickness, in. (mm) D : Outside diameter, in. (mm)												- U.S. Customary Formula $P = \frac{2St}{D}$ - Metric Formula $P = \frac{2000St}{D}$			
NDT (Non-Destructive Test)	-												Electric resistance welded pipe : Ultrasonic Test or Electromagnetic Test(Eddy Current Test) submerged-arc weld pipe : Radiographic test			
Others	Residual Magnetism Measurement												-			