

MECHANICAL & CHEMICAL PROPERTIES

ASTM STANDARDS

Specification	Type	Grade	Chemical Composition (%)														Mechanical Properties				Hydrostatic Test Pressure	Hardness (max.)				
			C		Mn		P	S	Si		Cr		Mo		Cu	Ni	V	Yield Strength		Tensile Strength				% Elongation (G.L. 50 mm WT 8 mm) e (min.)		
			Min	Max.	Min	Max.	Max	Max	Min.	Max	Min.	Max	Min.	Max	Max	Max	Max	Max	Min.						Min.	
																			PSI	MPa					PSI	MPa
ASTM A333 & A 334	E & S	1	-	0.30	0.40	1.06	0.025	0.025	-	-	-	-	-	-	-	-	-	30,000	205	55,000	380	35	P = 2 S t/D S = 60% of SMYS	Impact	Hardness	
		6	-	0.30	0.29	1.06	0.025	0.025	0.10	-	-	-	-	-	-	-	-	35,000	240	60,000	415	30		18 J (Min.)	85 HRB (163 BHN)	
																								18 J (Min.)	90 HRB (190 BHN)	

P - Hydrostatic Test Pressure (Bar) ; D - Specified Outside Diameter (mm) ; t - Specified Wall Thickness (mm)

A - Cross Sectional Area (inch / mm) ; U - Specified Tensile Strength (PSI / MPa)

E : ERW (Electric Resistance Welded) ; S - Seamless ; SMYS - Specified Min. yield Strength.