

Mechanical Requirements

Carbon Alloy & Stainless Steel ASTM A193 / ASME SA193 For High Temperature Service

Grade	Diameter, in	Heat Treatment	Tensile Strength, min, ksi	Yield Strength, min, 0.2% offset, ksi	Elongation in 4D, min, %	Reduction Of Area, min, %	Hardness, max	Minimum Tempering Temperature, °F
B7	2-1/2 and under	Quenched and tempered	125	105	16	50	321 HB or 35 HRC	1100
	Over 2-1/2 to 4		115	95	16	50	302 HB or 33 HRC	1100
B7M	2-1/2 and under	Quenched and tempered	100	80	18	50	235 HB or 99 HRB	1150
	Over 2-1/2 to 4		100	80	18	50	235 BHN or 99 R/B	1150
B16	2-1/2 and under	Quenched and tempered	125	105	18	50	321 HB or 35 HRC	1200
	Over 2-1/2 to 4		110	95	17	45	302 HB or 33 HRC	1200
B6	Up to 4		110	85	15	50	---	1100
B8	All diameters	Carbide solution treated	75	30	30	50	223 HB or 96 HRB	
B8 Class 2	3/4 and under	Carbide solution treated and strain hardened	125	100	12	35	321 HB or 35 HRC	
	Over 3/4 to 1, incl.		115	80	15	35	321 HB or 35 HRC	
	Over 1 to 1-1/4, incl.		105	65	20	35	321 HB or 35 HRC	
	Over 1-1/4 to 1-1/2, incl.		100	50	28	45	321 HB or 35 HRC	
B8M	All diameters	Carbide solution treated	75	30	30	50	223 HB or 96 HRB	
B8M Class 2	3/4 and under	Carbide solution treated and strain hardened	110	95	15	45	321 HB or 35 HRC	
	Over 3/4 to 1, incl.		100	80	20	45	321 HB or 35 HRC	
	Over 1 to 1-1/4, incl.		95	65	25	45	321 HB or 35 HRC	
	Over 1-1/4 to 1-1/2, incl.		90	50	30	45	321 HB or 35 HRC	

DISCLAIMER: Please note that this information is produced for general information purposes only. Please consult the appropriate material specification to ensure the specific information you require is accurate.