

TABLE 2 Mechanical Requirements — Inch Products

Grade	Diameter, in.	Minimum Tempering Temperature, °F	Tensile Strength, min, ksi	Yield Strength, min, 0.2 % offset, ksi	Elongation in 4D, min, %	Reduction of Area, min, %	Hardness, max
Ferritic Steels							
B5 4 to 6 % chromium	up to 4, incl	1100	100	80	16	50	...
B6 13 % chromium	up to 4, incl	1100	110	85	15	50	...
B6X 13 % chromium	up to 4, incl	1100	90	70	16	50	26 HRC
B7 Chromium-molybdenum	2½ and under	1100	125	105	16	50	321 HBW or 35 HRC
	over 2½ to 4	1100	115	95	16	50	321 HBW or 35 HRC
	over 4 to 7	1100	100	75	18	50	321 HBW or 35 HRC
B7M ^a Chromium-molybdenum	4 and under	1150	100	80	18	50	235 HBW or 99 HRB
	over 4 to 7	1150	100	75	18	50	235 HBW or 99 HRB
B16 Chromium-molybdenum-vanadium	2½ and under	1200	125	105	18	50	321 HBW or 35 HRC
	over 2½ to 4	1200	110	95	17	45	321 HBW or 35 HRC
	over 4 to 8	1200	100	85	16	45	321 HBW or 35 HRC
Grade, Diameter, in.	Heat Treatment ^b		Tensile Strength, min, ksi	Yield Strength, min, 0.2 % offset, ksi	Elongation in 4 D, min %	Reduction of Area, min %	Hardness, max
Austenitic Steels							
Classes 1 and 1D; B8, B8M, B8P, B8LN, B8MLN, B8CLN, all diameters	carbide solution treated		75	30	30	50	223 HBW or 96 HRB ^c
Class 1: B8C, B8T, all diameters	carbide solution treated		75	30	30	50	223 HBW or 96 HRB ^c
Class 1A: B8A, B8CA, B8CLNA, B8MA, B8PA, B8TA, B8LNA, B8MLNA, B8NA, B8MNA, B8MLCuNA, all diameters	carbide solution treated in the finished condition		75	30	30	50	192 HBW or 90 HRB
Classes 1B and 1D: B8N, B8MN, B8MLCuN, all diameters	carbide solution treated		80	35	30	40	223 HBW or 96 HRB ^c
Classes 1C and 1D: B8R, all diameters	carbide solution treated		100	55	35	55	271 HBW or 28 HRC
Class 1C: B8RA, all diameters	carbide solution treated in the finished condition		100	55	35	55	271 HBW or 28 HRC
Classes 1C and 1D: B8S, all diameters	carbide solution treated		95	50	35	55	271 HBW or 28 HRC
Classes 1C: B8SA, all diameters	carbide solution treated in the finished condition		95	50	35	55	271 HBW or 28 HRC
Class 2: B8, B8C, B8P, B8T, B8N, ¾ and under	carbide solution treated and strain hardened		125	100	12	35	321 HBW or 35 HRC
over ¾ to 1, incl			115	80	15	35	321 HBW or 35 HRC
over 1 to 1¼, incl			105	65	20	35	321 HBW or 35 HRC
over 1¼ to 1½, incl			100	50	28	45	321 HBW or 35 HRC
Class 2: B8M, B8MN, B8MLCuN ¾ and under	carbide solution treated and strain hardened		110	95	15	45	321 HBW or 35 HRC
over ¾ to 1 incl			100	80	20	45	321 HBW or 35 HRC
Over 1 to 1¼, incl			95	65	25	45	321 HBW or 35 HRC